BRAITHWAITE'S RETROSPECT.

—

VOL. XIV, JULY—DECEMBER, 1846.

THE

RETROSPECT OF MEDICINE:

BEING

A HALF-YEARLY JOURNAL,

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

EDITED BY

W. BRAITHWAITE,

LECTURER ON OBSTETRIC MEDICINE AT THE LEEDS SCHOOL OF MEDICINE, ETC.

VOL. XIV. JULY—DECEMBER,

1846.

LONDON:

SIMPKIN, MARSHALL, AND CO.,

EDINBURGH: OLIVER AND BOYD. DUBLIN: HODGES AND SMITH.

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ERRATUM.—At page 143, Vol. XII., for G. Badley., Esq, read G. Padley, Esq.

PRACTICAL MEDICINE,

&c. &c.

FEVERS.

Art. 1.—ON FEVERS.

By Dr. Corrigan, Dublin.

[Dr. Corrigan, in some excellent lectures on Fever in the Dublin Hospital Gazette, proceeds to the analysis of this disease in reference to its several functional lesions, and commences with those of the cerebro-spinal system, or that system which connects man with surrounding objects. We find first the absence of sleep, which is essentially not a mere symptom, but a part of the disease; for if the patient do not obtain sleep he must die: as in delirium tremens, in which death may occur solely for want of his natural rest, there being no organic disease to account for his death. If watchfulness continue for a few successive nights, delirium and subsequent coma are the invariable consequences, and these supervening, constitute a very serious aggravation of the disease.]

If, (says Dr. C.), you hear that the patient has continued sleepless for several nights, it is quite clear that under such circumstances life cannot be prolonged. Then comes the question, what is to be done in order to relieve this function? In answering this question, I must again impress upon you the fact that you are not to look upon this want of sleep as a symptom, but as a part of the disease; and with this fact in view, we find the treatment to resolve itself under two heads:—First, general management, including the adaptation of external agencies; secondly, the employment of remedies. As regards the first of these heads more particularly, I may observe that nothing can be more marked than the difference (in its relation to the lesion of the function we are new considering), between the patient in an hospital and one in private practice. In the latter case, want of sleep usually sets in early, and is much oftener followed by delirium and coma than in the lower classes. There are errors in the management of the private patient which greatly increase the tendency to watchfulness in him, and in consequence of which, many, I have not a doubt,

have fallen victims. What is the plan usually adopted with regard to attendants in such cases? It is most often this: two nurses are generally employed, and from that moment a continued noise or whispering is perpetually kept a-going; and of all the torments to which it is possible to subject a fever patient, I know of none that bears a comparison with a continued succession of whisperings. It is well known that a patient under such circumstances strains all his faculties to catch—no matter at what amount of torture to himself—the slightest whisper that may be made. To obviate in some measure this source of annoyance, I have sometimes ordered the patient's ears to be stuffed with cotton.

Remember, as I have so often said, that insomnia is not a symptom but a part of the disease; and that if sleep be not procured, delirium, and then coma, and most probably death, in the end, must ensue. If we now pass from the consideration of light, air, &c., to the question of medical treatment, the first thing to be done will be to have the head shaved; and this of itself is generally sufficient; the application of intense cold is often a serious error; it very often obviates the object you have in view—that of procuring sleep. After this, if you ascertain that the patient has still had no sleep, you will not be doing wrong, I am sure, if you apply four or six leeches to the temples. This is a remedy upon which, for my own part, I place more reliance than almost any other. If, after your patient has passed three or four successive nights without sleep, you apply four leeches to the temples, and that you procure for him even half an hour's sleep, you will have done a vast deal towards his recovery. How the leeching has the effect of procuring sleep, it is not easy to explain—and I dislike theorizing on a subject connected with practical medicine; but it may be supposed that when the brain has been excited, through the absence of sleep, for three or four nights in succession, it is first in a state of irritation, and then passes into a stage of congestion; at all events there would appear to be some congestive action of the vessels, which if you relieve by the application of a few leeches, you do, as I have said, much towards the recovery of your patient. A state of general debility, requiring the exhibition of wine, need by no means prevent your employing this remedy; for while you give wine with a view to the tone of the heart, larger vessels, and capillaries, you are perfectly justified in relieving the distended capillaries of the head by the local abstraction of a small quantity of blood; just as in some forms of ophthalmia, it is often the best practice to employ local bleeding to relieve the distended capillaries, and tonics to give them and the general circulation, tone. I was myself first led to adopt this practice in reference to procuring sleep, chiefly from having observed that, on the occurrence of epistaxis, sleep supervened, and the patient recovered, although in such cases the general debility had been so great as to have required a free exhibition of wine. You need have no fear of taking this small quantity of blood from the capillaries, for they very soon accommodate themselves to the

trifling loss sustained: there is not the risk that might attend even so small an abstraction of blood, taken from a vein. The application of cold to the head is another useful means of obtaining the same object, but it is one which is too often carried to excess. A bladder containing pounded ice is placed on the head, but air is quickly disengaged, the ice lies heavily upon the top or back part of the head, and sometimes causes even sloughing of the integuments. Instead of ice, take a single fold of linen dipped in cold lotion; lay it on the head, and it will generally answer all purposes. You will often observe the nurse take two or three folds of old linen or lint, which she moistens and lays over the head, the consequence of this mode of proceeding is, that the cloth, instead of remaining cool by evaporation, is almost always as hot as the part to which it is applied; in fact, evaporation cannot take place through the numerous folds of linen, and the head is kept absolutely hotter than if no lotion at all were used. All these matters may seem at first trifles, upon which I may appear to dwell unnecessarily; but, as I have told you, if we recollect that this want of sleep is not a symptom but a part of fever, too much attention can hardly be paid to minute details.

The question might suggest itself to you here, why, as opium is given in delirium tremens, and in such like diseases—why should it not also be administered here, where obtaining sleep is a matter of such paramount importance? Why not give it for the lesion of the cerebro-spinal function which we are now considering? Because, if opium be given in fever, and if it do not procure sleep, it does mischief of another kind. It will act injuriously upon the nutritive function, including that of secretion and excretion. In analysing the disease before us, we may derive great assistance from comparing some of its lesions in function with symptoms in other diseases. For instance, in delirium tremens, while the tongue and gums secrete their natural quantity of mucus, and the secretion of urine is abundant, you may continue to give opium for the purpose of procuring sleep; but suppose, in the course of the treatment, the tongue became dry and brown in the centre, the urine high-coloured and scanty, and a slight wound or cut, if there happen to be one on any part of the body, becomes dry and everts its edges—in other words, as the nutritive function is passing into a deranged state, then the opium is acting as a poison upon the system, and the continuance of its administration would be fatal. The same considerations are to guide you in the exhibition of opium in fever; if the condition of the skin, of the mucous membrane, and an abundant secretion of urine, indicate a sufficiently active state of the nutritive and secreting function, you may venture on a trial of opium; but if the desired effect be not produced at once, do not attempt to press it; if you do, mischief will surely follow. Hyosciamus is a remedy which has not an injurious effect upon the functions of nutrition and secretion, but this cannot be said of opium. At the approach of coma, you must not, unless there be

strong vascular action about the head, persist in bleeding, but have recourse to blistering, as a means of rousing the patient from his state of torpor. Here I may observe that in the ordinary way of applying a cap blister, as it is called, the blister cannot be made to lie close to the surface; for this reason, I have been in the habit of having the blister cut into strips of an inch in width, laid across the head in a direction from ear to ear, so that no part is left uncovered, and that the strips lie close to the skin. Counter-irritation may also be produced in a few hours by means of croton oil and ung. hydr. mixed. There is a state of the breathing preceding the approach of coma, which you might confound with that of bronchitis, but in which the danger is very different; it becomes exceedingly rapid and laboured, amounting to forty or fifty respirations in a minute, but the respiratory murmur is audible in the tubes; there is no mechanical obstruction in them; this is what is called cerebral respiration; while in that of bronchitis or catarrh the tubes are filled with mucus, and a mechanical obstruction is thus offered to respiration, from which very few cases recover. You observe, besides, the characteristic lividity of the countenance, while in the cerebral breathing the countenance is pale, natural, or high-coloured. The cerebral breathing is a breathing of debility, very similar to that you hear in a person after very violent exercise. In the case of Prunty, for instance, which you remember was a very severe one, I observed that the breathing was very rapid and laborious, but still the face was very pale. Here the debility was very great, requiring enormous quantities of wine, so much as thirty ounces of which were given in the day; the convalescence in this case will be very slow. There is one point upon which I cannot speak too strongly; I allude to the condition of the bladder. You should look with the strictest attention to the state of this organ. The nurse may tell you the patient passes water freely—in fact, that it flows from him in the bed; but you are aware, from what occurs in the surgical wards in injuries of the head, that this is not to be trusted to; at all events, make it a rule to examine closely, and there is no harm in the introduction of a catheter. In the female, the bladder will distend to a volume capable of containing at least three quarts, while all the time the urine is dribbling away in the sheets. In speaking of leeching and other remedies, you observe that I have said nothing of what is to be done on this day or that of fever. Get the idea of days out of your head; fever is not like a case of peritonitis or pneumonia, in which the stage of congestion and the stage of deposition of lymph, &c., are to be gone through in order. In the analysis we have made of fever, as purely a disease of functions and these lesions of functions not symptoms but portions of the disease itself, the treatment is to be adapted not to the circumstance of the fifth, sixth, tenth, or twentieth day of fever, but to meet the state of each particular function, day by day. Take up, in their proper order, as you stand by the bed-side—first, the circulating function, made up of the heart,

larger vessels, and capillaries; examine the state of these functions; next look to that of nutrition and secretion, as declared by the state of the tongue, gums, urine, and the other symptoms, as I have gone through them; then to the cerebro-spinal system, which we have examined to-day. If you understand clearly the rules I have endeavoured to lay down, you will understand why it is that we may with advantage combine the application of leeches with the administration of wine, and, along with the latter, the exhibition of mercury; the one to meet the lesion of the circulating function—the other for the purpose of relieving the derangement of nutritive functions. You also know that mercury may be combined with aqua acetatis ammoniæ, &c., when febrile excitement is to be subdued; and you can perceive the value of blisters and other stimulants as a means of stimulating the function of circulation, or of rousing a patient from the lethargic condition into which he may fall. Thus, if you follow up the rules which in the analysis of fever I have endeavoured to carry out in the short space of three lectures on the subject, you will be able to understand why it is that remedies of an opposite therapeutic tendency may be usefully combined. You can understand also that fever is not a disease to be treated by guess-work, but that it has, in fact, on accurate investigation, rules for its treatment as definite as those of any other disease you may have to contend with. I have explained to you why it is we have a crisis in some fevers and none at all in others. I have shown you that in some cases accompanied with very marked derangement of the nutritive function, a crisis by the urine is observed and is manifested by a deposition of urate of ammonia, and of that highly-animalized substance, urea, in double or treble the quantity contained in healthy urine. In other cases where the lesion we have been this day discussing plays a principal part, crisis by sleep occurs; for instance, you find a person sleep occasionally for six and thirty hours, who had for several days perhaps not closed his eyes; he awakes after a lengthened repose of this kind, drinks freely, and his strength rapidly returns, upon the restoration to health of the important function of the cerebro spinal system. In some cases, again, no crisis at all is observed, and that most often occurs in fever of the type prevailing at present, where the lesion of the circulating function is the chief derangement. You can distinguish nothing like a marked crisis in these cases; the urine may show some slight evidences of it, but they are very trifling. But the crisis most of all to be dreaded in the fever now prevailing is a crisis by perspiration; for you may almost lay it down as an axiom, that when perspiration sets in on the sixteenth or seventeenth day, there is a very great risk of your patient's life. It is very hard to say why it is so, but you must by all means avoid anything that would encourage perspiration. In common inflammatory fever, its occurrence upon the second or third day may be looked for as an advantageous occurrence; but in our present maculated fever it is much to be dreaded, as a circumstance productive of extreme exhaustion

and relaxation. I could, of course, spend a length of time upon the mere varieties of fever, but enough, I think, has been said in these three lectures to afford you principles upon which you may obtain perhaps a better foundation, as regards the treatment of fever, than you could derive from some of the books that come before you. At the same time, I throw out those views without any desire that you or others should dogmatically follow up the principles I have endeavoured to set forth, but that if in a comparison with the rules of others, you find mine more plain in their application, it will be sufficient for me to have placed the rules in a clearer point of view.—*Medical Times.*

Dublin Hospital Gazette, May 1, 1846, *p* 273.

2.—*An account of a Typhoid Fever, apparently originating in local Miasma.*—By Dr. Christison, Professor of Meteria Medica, Edinburgh. [The results of the recent Government investigations into the causes of the unhealthiness of towns, have proved beyond a doubt, the tendency which putrid effluvia has to favour the spread and aggravate the malignity of Typhus Fever. They have done more than this,—they have gone far to prove that the effluvia arising from organic matters in a state of decay, are capable of generating a fever in its worst form; this shews that continued fever may be epidemic or endemic in localities very circumscribed. This fact is clearly proved from the impossibility of tracing its origin to infection—the narrowness of its range and its peculiar virulence,—all calculated to distinguish it from the usual epidemic form of continued fever. Dr. Christison has recently had his attention particularly drawn to this subject in consequence of having been called to several cases in Peebleshire, attended with some peculiar circumstances. He gives the following account of them.]

In a thinly-populated rural district of Peebleshire,—the locality will be particularly described hereafter,—Mrs. W. the wife of an extensive farmer there, was attacked on the 22nd of January last with rigors, general prostration of strength, and great disinclination for food; to which occasional vomiting was added five or six days afterwards. She was visited for the first time professionally on Friday, the 30th January, by Mr. Macnab; who found her in the following state, as I shall give it in his own words. "She complained of rigors, pains in the back and limbs, headache, a little intolerance of light, slight sore throat and dryness of the mouth, a painful sense of palpitation along the course of the descending aorta, nausea and desire to vomit, with occasional fits of vomiting, thirst, want of sleep, total loss of appetite, and great exhaustion. The pulse was 92 and feeble, the tongue covered with a very thick brownish-yellow fur, the back of the throat somewhat red, the vomited matter partly mucous, partly bilious, the bowels constipated, the evacuations dark and offensive, and the urine unusually yellow, as if bilious. The countenance had an anxious expression, and the eyes were suffused; but there was no appearance of pete-

chial eruption either at this time or subsequently. The temperature of the body, and of the extremities more especially, was lower than natural. There was no pain in the epigastrium or in either hypochondriac region.—Under the use of frequent laxatives and diaphoretics she gradually recovered On the 9th of February she was able to take food with relish, and for some days had been without any tendency to vomiting, so that she was left as convalescent, but with instructions that assistance should immediately be procured if any unfavourable change presented itself." Having heard nothing farther of the case for four days Mr. Macnab went on the 13th, to inquire for her; and, to his surprise, found her labouring under all the former symptoms in an aggravated degree. "The thirst was intense, the nausea and vomiting very troublesome, the pulse 100, small, feeble, and intermitting, the tongue covered with a very thick, dry, yellowish-brown coating, the bowels very constipated, the evacuations dark, bilious, and fetid, and the vessels of the conjunctiva much injected. But there was still no pain in the abdomen, and no appearance of petechiæ anywhere; neither was there any wandering of the mind. The remedies which were formerly of service had now no effect; the more urgent symptoms went on steadily increasing; on the 16th towards evening articulation became indistinct, and her words for the first time incoherent; and at six o'clock on the same evening she expired. An inspection of the body was not allowed. It presented after death an emaciated appearance, and a peculiar yellowish colour, but no tumefaction." Mrs. W. was seventy years of age, but had long enjoyed excellent health.

The next case was that of her husband, Mr. W., also a hale old person of seventy. He was taken ill on the 25th January, within three days after his wife. His illness commenced in the same way. On the 30th Mr. Macnab found him labouring under symptoms precisely similar to those described above, and nearly the same in degree, except that he had not so much prostration of strength, being able to sit up at the fireside. The pulse was 92, and of moderate strength. Like his wife also, he improved under the administration of laxatives and diaphoretics down to the 9th February, when the vomiting had ceased, the appetite was tolerable, and he felt himself able to leave his bed. After this however, the same symptoms recurred; on the 13th Mr. Macnab found him greatly worse; remedies were no longer of any avail; and he died on the 18th, two days after Mrs. W.; his mental faculties continuing, as in her case, unimpaired till a few hours before dissolution. The body, after death, had a yellowish sallow appearance, and speedily began to decay.

The third case in point of order was that of Mr. G. W., the son of Mr. and Mrs. W., who was taken ill on the same day with his father. But it may be as well to notice in the first instance the fourth case, because it was the only other that proved fatal. This was the case of a servant girl in the family.

The disease under which Mr. and Mrs. W. died presented the

characters of ordinary typhoid fever, but with certain peculiarities; and it proved fatal, like many cases of ordinary fever, about the close of the third week. The servant, Isabella M., aged twenty, was seized on the 26th January with rigors, vomiting, loss of appetite, and prostration of strength, exactly as her master and mistress before her. On the 30th Mr. Macnab found her affected, like them, with "pains in the extremities, slight sore throat, nausea, and frequent vomiting, palpitation of the heart, and a troublesome pulsation in the descending aorta, urgent thirst, total loss of appetite, complete want of sleep, and great debility. The pulse was 112, and small, the tongue covered with a very thick yellowish-brown fur, the temperature below the natural standard, with occasional rigors, the bowels constipated, and the evacuations dark and offensive." The symptoms therefore were precisely the same as in the previous cases. But their progress was very different. For no abatement was accomplished by treatment; her strength was quickly exhausted; and she died in the afternoon of the 1st February, within six days and a half after being first taken ill. In her instance death was preceded for twenty-four hours by some delirium and considerable stupor; but in no other case were these symptoms so well marked as to attract notice. The body after death presented the same yellowish sallow hue of the integuments, as in the cases of Mr. and Mrs. W.

These were all the fatal cases. In addition twelve other individuals were more or less severely attacked with similar symptoms to those detailed above; and three or four other persons were more slightly affected, whom however Mr. Macnab did not attend professionally, and concerning whom consequently he derived his information at second hand, and in a way not quite satisfactory to his mind. It is unnecessary to describe all these cases, as they presented a singular uniformity of characters. Two only may be added, the one as an example of the disease in its severe form when not fatal, the other to exemplify the mildest form.

Mr. G. W., son of Mr. and Mrs. W., aged about 27, "after being absent from home for about three weeks, returned with his sister from the Island of Skye on the 19th January, three days before his mother took ill. On the 25th, six days after his return, he was seized with nausea, tendency to vomit, thirst, disinclination for food, considerable prostration of strength, and slight headache; he continued in this state, sometimes confined to bed, sometimes going about a little, until the 28th, when urgent business compelled him to proceed to Edinburgh, a distance of twenty-two miles. He went thither on horseback, feeling sick and uncomfortable on the way, and vomiting a little; but he was able to remain in town till the 30th, and afterwards to ride back to the farm, where Mr. Macnab saw him next day. He then felt better, but still complained of sickness, tendency to vomit, slight headache, some sore throat, and little appetite for food. The pulse was 86, and of moderate strength; and the tongue was covered on every part but the mere edge with a very thick,

yellowish-brown fur. Subsequently he became worse. The vomiting gradually increased in frequency, and the vomited matter acquired a bilious appearance. The bowels were obstinately costive, and the evacuations dark and bilious. The urine seemed as if loaded with bile. The lining membrane of the throat was slightly red, and the vessels of the conjunctivæ were full of blood; but there was no appearance of petechial eruption on the skin. He continued much in the same condition till the 9th February, when he became considerably better, so that he could even take a little food with relish. But on the 13th he was much worse again. The vomiting had become urgent, the thirst extreme, and the desire for food altogether gone. The pulse was about 90, rather feeble; and the tongue loaded with a yellowish fur as before. He now also complained of severe pains in the limbs, especially below the knee joints, down the front of the tibiæ, and also to a less degree in the arms and hands. He described this sensation as a painful uneasy numbness, causing incessant restlessness and change of posture; it was attended with coldness of the integuments to the sense of another person; and he derived no relief from the warm bath or hot fomentations. No change for the better having occurred in five days more, he was removed on the 18th to Edinburgh. He bore the journey well, and under the care of Dr. Begbie, began speedily to improve." On the 20th, I saw him in consultation with Dr. Begbie and Mr. Macnab, who came to town on purpose. The vomiting had ceased; but the pulse continued about 90 and rather weak, the tongue much loaded, though less so, the bowels difficult to move, and the desire for food still altogether wanting. The pains in the limbs were also distressing, and occasioned much restlessness and want of sleep. There was a good deal of languor; but he conversed without difficulty. The countenance and skin generally were pale, the eyes clear and not injected, the expression not oppressed; and altogether the general physiognomy of the disease struck me at once as different from that which has long been familiar to me as characterising the several forms of the infectious typhus of this city. Under the use of laxatives, calomel, diaphoretics, morphia at night, and tonics, the patient gradually threw off the more urgent symptoms, and was restored to a state of good general health. But the painful uneasiness of the limbs continued without material abatement. Even so lately as the 4th of May, more than three months after he was taken ill, Mr. Macnab wrote to me, that "the legs are somewhat swelled from the knees downwards; he complains of a a sense of uneasy soreness in them, together with a numbness and want of the feeling of pain when the skin is pinched; he walks with very great difficulty; and altogether the affection seems to be of the nature of partial and incomplete palsy." [He continued in the same state on the 8th of June.]

A short example of the slightest form of the disease will now conclude the narrative of cases. "Marion H., daughter of one of Mr. W.'s ploughmen, residing within two hundred yards of the

farm-house, had been frequently in the house milking the cows and taking occasional charge of the two domestic servants while sick. On the 1st February she was seized with nausea and desire to vomit, thirst, and the other early symptoms mentioned above. The pulse was 96, the tongue furred, the bowels constipated; but the thirst was not urgent, and the sore throat inconsiderable. Under the use of laxatives and diaphoretics she gradually recovered, and in ten days she was able to be out of doors. On the 4th of May, she was in excellent health, and engaged in her usual occupation as a farm servant." Neither this patient, nor any other but Mr. G. W., and another girl, a house servant, suffered from pains of the extremities or incomplete paralysis.

The foregoing cases will serve to illustrate the characters of this little epidemic, so far as the symptoms are concerned.

[In the whole of the cases which occurred, fifteen in number, the symptoms, both in nature and succession were nearly similar; such as severe gastro intestinal derangement, nausea, vomiting, loathing of food, furred tongue, and obstinate constipation; no petechial eruption occurred; the accompanying fever was slight and adynamic. The disease was most severe in those who resided night and day in the farm-house. Although every person who came into the farm-house was affected more or less, it is worthy of particular remark that it was not communicated to any one else, by those who were attacked by it. If it spread simply by infection, this infection must have been remarkably virulent, since every person exposed to it was attacked. Dr. Christison arrived at the conclusion that the disease must have arisen from local malaria. The farm-yard was situated on rising ground behind the house, and he concluded that the drains were defective,—and that the soil around, and perhaps even under the house, had become impregnated with decaying animal matter. On examination it was found that all the drains were closed up with the accumulated filth from the necessaries and farm-yard. The effluvium was so great when these were opened, as to affect the air to a considerable distance in the neighbourhood. It is probable that attacks of fever from similar causes, are very common; since farm-yards are generally too near the dwelling-houses, and the inhabitants allow filth to accumulate from bad drainage. Not long ago, a farmer's family in Stirlingshire, four in number, all died of malignant fever, in a very short time. It is probable there was a similar cause in operation here.

It is a common opinion, that moisture, or wet weather, often aggravates the influence of miasma: but in contradiction to this we would adduce the fact that for many years, to our own knowledge, Typhus has existed after a long season of dry, warm weather, as in the late autumn. This we have noticed much oftener than after or during the prevalence of wet weather. We suspect that it is too often forgotten, that malarious particles may be dissolved by moisture or water, so as to be rendered innocuous.]

Monthly Journal of Medical Science, July, 1846, *p.* 1.

3.—*On Typhus Fever.*—By Thomas Laycock, M.D., Physician to the York Dispensary and Lecturer on the Theory and Practice of Medicine.—[Dr. Laycock observes that the critical days of fever generally have a *tertian* type, the paroxysms being probably on the 1st, 3rd, 5th, 7th, 9th, 11th, and 13th, the fever then ending, i.e. after the seventh paroxysm, and the amendment being on the fourteenth day. He remarks that,]

Some practitioners say that the doctrine of critical days is a fancy: a friend told me so not long ago. I answered, "Then, my friend, you are wiser than Hippocrates and all the big-wigs who have believed with him for the last 2000 years." His answer was, that he had never read Hippocrates and the big-wigs. So I begged of him to tell me what a critical day was. I knew that, as he had never studied the subject (for the Treatise *de Diebus Judicatoris*, in the Hippocratic writings, is the best ever written on it), he could not; and he knew it, too, for I had to press him to give a definition At last, he replied, "that a critical day is the day when a person is in a critical state, when he will have some marked change, as a sweat, or a purging, or when he is in great danger, and you do not know which way the case will turn." He was rather surprised when I said that, on the contrary, a critical day is the day on which you *ought* to know how the case will terminate; it is the day on which you may *form a judgment* as to the probable course of the disease. I know the word critical has been popularized, and means dangerous, as used by some people—newspaper writers in particular. But the origin and original use of the word should be noted; it will do you no harm to look in upon Hippocrates, and consult him on this point. If you do this you will find that crisis is a Greek word corresponding to the Latin judicatio, and the English judging: it has no reference to danger at all. It means, medically, the act of mind by which you make certain deductions from certain morbid phenomena happening at a certain time; a process by which you infer, 1, the probable duration and termination of disease, and 2, the symptoms likely to appear on certain future days. Now, if you have a case of fever in which jaundice and hiccup appeared on the fifth day, it would be fatal, probably, on the seventh day.

In a paper published in the 12th vol. of the London Medical Gazette, Dr. Latham objects to the doctrine of critical days. He says, the evidence in its favour is imperfect, and he gives a table of the duration and termination of 297 cases of fever. Of these, 108 are reported as being prolonged beyond the 28th day, and 33 of the 108 beyond the 42d day. I am inclined to think that no specific or epidemic fever can be prolonged beyond the 28th day: there may be such an one, but I never saw an example. You may have irritative or hectic fever continue after the termination of the true series of febrile phenomena, but this ought, I think, to be considered apart. It is a fever consequent upon the structural changes which specific fever induces—the *sequelæ*, as they are termed. I think, then we should strike off these 108 cases; and I think, too, we must either doubt Dr. Latham's exactitude of observation (although this be a

heresy) in some of the other cases, or conclude that there has been something very peculiar in the type of the fever. At all events, if Dr. Latham be right in his observations, and the fever has been of the kind termed a twenty-one day fever, other observers must have been quite wrong. Dr. Tischendorf, of Langenfeldt, in Vogtlande, took notes of the critical days in 100 cases of nervous fever. I extract his numerical statement from Schmidt's Jahrbücher, Vol. 21. Of the 100 cases 19 died; of the remaining 81 the termination was as follows: on the 11th day, 8; 14th day, 36; 21st day, 34; 28th day, 5. But he reports none as prolonged beyond the 28th day. I am inclined to think, from a personal acquaintance with German pathologists, that this nervous fever is identical with the fever of which we have witnessed some examples lately. I could multiply numerous proofs of this kind from almost every quarter, and I think positive proofs are always to be received as of greater weight than negative proofs. You will therefore do well to look out for critical days, and I can assure you, from my own knowledge, that a determination of them will be very useful to you. I will give you an example. I was requested by a neighbour of mine (who, although a surgeon and apothecary, practises rather as an amateur than as one of us), to visit a humble friend of his under his care. The case was one of malignant scarlatina; the patient was the father of a numerous family, and my friend was very anxious about him. On the 13th day of his attack (for we ascertained the exact order of the febrile phenomena), he was very bad indeed; he could not swallow, nor speak, nor hear, nor, in fact, take notice of us. He seemed to be on the point of death, and properly he ought to have died next morning (the 14th day), about three or four o'clock. "Well," I said, "It is all over with our patient, but there is one slight chance left. If we get him over to-night, we shall get over the last paroxysm; to-morrow may, perhaps, see him rally." So my friend sat up with him all night. He administered stimulant enemata, applied terebinthinate epithems, kept the feet warm, moistened the tongue and throat from time to time with stimulants; in short, helped on the flagging powers of nature; and nature triumphed, the man got well, and is alive yet. This case has a double value: it illustrates the doctrine of critical days, and it shows the necessity, when you go forth to combat the enemy, of having this motto writ on your weapons, "*nil desperandum.*"

You will wish to know how the critical days are to be observed. The mode will depend upon the kind of fever. In the exanthematous fevers they are very clearly manifest; if you will read Dr. Craigie's history and description of small-pox you will find that the critical days in that fever are the fourth, seventh, eleventh, and fourteenth. In counting the days you count the day of the first rigor, or febrile paroxysm, as the first day. Fevers, like agues, have varying types. You are aware that a quotidian in spring or the beginning of summer may be a tertian at the beginning of autumn, and a quartan during the winter. In agues the remission of the febrile phenomena is complete; it is an intermission. In a remittent fever the remis-

sion is less complete; the symptoms do not disappear quite, but are alleviated only. In a continued fever like typhus the remissions are still slighter, and the alleviation of the febrile symptoms still less. Now, in proportion as the remissions are less distinct, careful observation becomes the more necessary, if you would distinguish the critical days. Supposing our typhus fever have a tertian type (which it has at present, but in the autumn it may be a quartan) your patient will be worse on the third, fifth, seventh, ninth, eleventh, thirteenth, seventeenth, twenty-first days, and he *may* also be better on these days, for the period of the day on which the exacerbation takes place is not the same in all cases, nor on each day in the same person. If the exacerbation be in the morning or at noon there will be a slight remission towards night. If it have the quartan type the exacerbation on the critical day will *probably* be between 4 and 12 o'clock, P.M., and then after 12 o'clock there will be an improved state of things. In a fever of this type, it has been noticed that the critical days are the *first* (second, third), *fourth* (fifth, sixth), *seventh* (eighth, nine, tenth), and *eleventh*. The last series has, you will see, an interval of three clear days. Now I do not know exactly why this happens; it is so, however, and I think it may be explained by the tendency which fevers have to change gradually the hour of periodic exacerbation. Sometimes the hour of accession is an hour or two later at each successive recurrence, sometimes an hour earlier, but usually the former. Now in the case of typhus and other continued fevers, anything like a critical evacuation is not necessary to the cure. The remission may be characterised simply by less heat of skin, less thirst, less delirium, an hour or two of quiet sleep, a free discharge of urine, or a slight diaphoresis. Or it may be that you just simply find your patient has a feeling of being better.

The treatment of these affections is very simple. The diarrhœa should not be stopped too soon. Let the bowels be well cleansed out by the purgation: you cannot say what injurious thing is carried out of the system by it. A little magnesia or lime-water, or, after repeated dejections, the cretaceous remedies, with opium, may be given. Should you find the diarrhœa become urgent you must stop it by calomel and opium. A grain of each may be given at once, and half or quarter-grain doses at intervals varying according to circumstances. If there be much tenesmus or dysenteric symptoms, an opiate enema will allay the incident excitor irritation of the rectum. In worse cases you may make the enema of acetate of lead, gr. iij. or iv., and acetate of morphia, gr. j. or ij., with an ounce and a half of distilled water. This with any simple diluent will usually be successful.

With regard to the typhus fever which is sometimes set up after the diarrhœa, the best treatment is that called expectant. You must take care that the patient have plenty of fresh air, for he is hot, that he have plenty of some cool simple diluent to drink, for he is thirsty. Let him have a frequent change of bed-linen, and

let him be frequently sponged or dowsed all over with cold water, if that be practicable. Nature says eloquently, "Cool my burning hot skin; quench my great thirst." Indeed, you may take it as a useful general rule that what is agreeable to the patient is useful; and when inquiries are made about his diet you may very safely allow him to take what he likes. He will not take much of anything. But caution the attendants not to give him what *they* like, because there is a wide difference between the ideas of the two parties. The sick man is guided by his instincts; the attendants often by some absurd theory. But it is well to make their theoretical notions useful in making them attentive to your directions. The nurse will generally sponge oftener if you give her a hint that she will thereby cool the fever, and open the pores, (the theory of closed pores is quite popular); and when diaphoresis takes place she will review her labours with much self-gratulation as the prime cause of the "opening of the pores", and you will come in for a large share of the credit too. The common febrifuge, the liquor of acetate of ammonia in camphor mixture as a vehicle, is as good a medicine as you can give.

When the head symptoms are urgent the cold douche is the best remedy. Give plain directions as to it use. Let the patient be wrapped up to the neck in a blanket, and direct that three or four pitcherfuls of water be poured upon the head from the height of a few feet, and to be repeated three or four times a day. Counter-irritants in extreme cases may be applied to the nucha, or behind the ears. The irritation of the bowels ought not always to be effectually checked, because I am inclined to think that it acts as a counter-irritant; but when it is manifestly debilitating the patient you must put a check upon nature's movements: she may carry her irritation too far. Sometimes the common cretaceous mixture is sufficient for this purpose; in other cases, where there is an aphthous condition of the mouth and fauces, you will find the nitrate of silver a very useful remedy. An eight-ounce mixture, with two grains of the salt dissolved in distilled water, to which a few minims of dilute nitric acid have been added, is a good preparation: an ounce to be given to an adult every three or four hours.

After the fever has abated the diarrhœa sometimes continues, and the patient gets no strength. Now, in such cases, small doses of sulphate of quinine, with the sixth of a grain of sulphate of copper, dissolved in any suitable vehicle, to which a few minims of dilute sulphuric acid has been added, plain water—*aqua fontis* is the best—may be given with advantage. If the stomach will bear the remedy it will act well. Acetate of lead, combined with opium or acetate of morphia, in pills made up with breadcrumb, is also a useful sedative in these cases of chronic diarrhœa: these remedies may also be used in the form of an enema as I before mentioned.

[The most frequent exciting cause of fever, diarrhœa, and cholera, is error in diet—it directly precedes an attack, although it is not the true pathological cause. Dr. Laycock considers fruit an excel-

lent summer diet, when moderately taken— he says it is a prophylactic against diarrhœa. He observes,]

Now there is a much more efficient and much more probable cause than either pickled salmon or plums. Under the streets of our best drained towns and cities there is a widely-extended magazine of miasmata. That magazine is hidden from view, yet it is ubiquitous. It enters every court and alley, and during the heat of summer it is put into fearful activity, and night and day evolves many thousand cubic inches of foul air. And that foul air is often imperceptible to the senses. Nobody suspects it is evolved and ascends from every gully-hole, until previously to or during rain, when it is held in solution in the aqueous vapour of the atmosphere, and becomes perceptible to the sense of smell. People will answer you, if you enquire the condition of their house drainage, "Oh, it is very good; the drain in the back-kitchen never smells except against rain; it is very sweet indeed." Yet night and day a miasm is ascending from the cess-pool called the street drain, through the sink-hole in that "sweet back kitchen," and infecting the air of the whole house. But whether it stinks or or not is of very little consequence; it may have no smell, or no unpleasant smell, and yet be a deadly poison. There is no smell in pure carbonic acid gas, and it is only an innocent odour of garlic that characterizes the fumes of arsenic; yet both these are deadly things. What is offensive to the sense of smell is injurious to the system or to some part of it; that is generally true; but the converse is not true; you cannot say that what is inoffensive to the sense of smell is *not* injurious. I hold it, then, as an established principle, that the malaria arising from the abominable sewers, especially in the metropolis, where water-closets and crowded church-yards abound, is the fruitful source of our summer epidemics; and you may rely upon this, that wherever you have cholera or typhus epidemic, there you have a source of malaria. I always enquire into this matter, and I always give the sufferer or sufferers a practical lesson in hygiene, whether they be poor or rich. You find a family suffering from cholera or fever, and there is a filthy drain close by. You say to the head of that family, "Would you like to know why you all have the cholera? It is that abominable drain." The answer will be: "It is really most nauseous, sir, but our landlord will do nothing." "Well, then," answer, "pay a pound or two a year more rent, in a healthier spot, where the landlord will do something; you will more than save the sum in escaping sickness." Now, this is a way of effecting sanitory reform without an Act of Parliament, and a very effectual way too.

The philosophy of epidemical disease is a vast and profound subject; it is too extensive for a clinical lecture, but there are a few points which I will bring under your notice, for you must be armed with knowledge, or you will not be able to combat popular prejudice and ignorance. In the first place, how do the miasmata of drains act on the organization and develope the morbid phenomena we

have discussed? How is it that it acts on the bowels and nervous system so decidedly? Let us look out for some analogies, and see if we can derive any practical information therefrom. Now, of course, the miasm is a poison; in small pox, scarlet fever, measles, hooping cough, syphilis, hydrophobia, &c., &c., there is a morbid poison acting on the system, and acting upon a determinate class of organs. Though all affect the mucous surfaces, yet they appear on one portion of the surface rather than on another, and when they appear on the skin, they each select certain structures of the skin. We may fairly infer, then, that the miasm of cholera and typhus acts by this law of selection or affinity; it affects principally the mucous membrane of the intestinal canal; indeed, you will find many writers designating its prolonged phenomena as "abdominal" typhus, because there is ulceration of the Peyerian glands or follicles. You may next inquire, why do the various morbid poisons affect one structure rather than another? The answer to this question may be found in the answer to another question,—Why do the various secretions and excretions pass off by their respective emunctories? When that question is answered, we shall be able to answer the other. In the meanwhile, I think we may fairly infer that, if a morbid poison resembles the excretion of any particular organ, it is not improbable that it will have an affinity for that organ, or for the tissues with which the organ has a functional or anatomical connection. Now, with regard to the intestinal canal and the functions of its mucous membrane, there is a diversity of opinions amongst physiologists. It seems probable, however, that gases of a lethal quality—gases that if retained would be poisonous to the system, and are purely excrementitious—are excreted from this mucous membrane, such as the compounds of hydrogen with carbon and sulphur. Now, these are just the sort of gaseous compounds which are given off from town drains, perhaps intermixed with other gases, but certainly of the same family, for they arise from fæces, and therefore likely to take the same course as the preceding when they have accumulated in the system. I think, however, that we may fairly infer that there is a specific difference (not a generic) between the miasm exciting cholera and typhus, and the miasm exciting yellow fever, or the jungle fever, or ague: they seem to seek another outlet, and therefore affect another class of organs—as the liver for example. In tropical climates, this organ is always unusually active. You may observe, too, that the action of the miasm of cholera and typhus is analogous to that of purgatives given medicinally; in fact, in large doses it acts just as a violent purgative, but ordinarily it is not taken in large doses, but has to accumulate, and when it has accumulated it may not produce any morbid results until the intestinal mucous membrane is placed in a morbid condition by some efficient cause, as the errors of diet I mentioned a while ago, or the depressing passions,—as fear, which is a very efficient purgative sometimes. When the Asiatic cholera prevailed, people were warned against fear, and against taking saline aperients; and very

justly, because they placed the intestinal mucous membrane in a morbid state, and thus that subtile poison which came to us from the filthy, ill-ventilated, Asiatic cities, and is said to be coming again, had scope to act; the barrier of healthy resistance was broken down. I might as well observe, that probably the miasm of Asiatic cholera is generically analogous to that of our own cholera, but is more virulent, as most tropical poisons are, whether animal or vegetable. The proper and sure method to exterminate the Asiatic cholera is to introduce a stringent health-police into the cities of Asia. We shall never be absolutely safe until this be done.

Is typhus fever or cholera infectious or contagious? Here is a knotty point. Opinions have been pretty equally divided upon it, and maintained with a warmth that is truly astonishing. You will find the truth probably in the opinions of both contagionists and anti-contagionists. It is as certain that epidemic fevers arise from a miasm diffused in the air, as agues and tropical fevers; but I think it is equally certain that some, if not all of these miasms, may act so upon the fluids of the organization as to produce miasms, which, acting on another person, shall excite either a disease like the original disease, or another altogether dissimilar—a *tertium quid*. We know, certainly, that morbid poisons may be so modified. Scarlatina, or small-pox, may be either malignant or mild; if they attack a person, living in impure air, and personally unclean, the infection, although mild, as regards the person from whom it was communicated, will be malignant in the person affected, and the infection from him will be malignant. The converse will happen. The malignancy of miasm may be diminished by repeated transmission through healthy persons. Vaccinia, another example, is a very different disease from its parent, whether that parent be "the grease," a disease of the horse's heel, or variola. I believe there is a good deal of evidence in proof of the idea that syphilis is a modified form of the leprosy of the middle ages; and I rather think that a careful observation and inquiry would show that other contagious or infectious diseases undergo a similar metamorphosis—perhaps that all do—that it is a general principle. However, you had better in practice consider these fevers contagious or infectious, and that an inorganic miasm, especially that arising from decaying animal and vegetable excrementitious matter, may be changed into an organic, in passing through an individual whose condition is favourable to the metamorphosis. Such, I think, was the origin of the Eclair fever; malaria passed through the bodies of a crowd of filthy negroes, and was changed into a morbid poison; and there would have been desolation and mourning, I think, not only in the united kingdom, but throughout Europe, if the miasm of that fever had escaped from quarantine.

Now infection is not absolute under any circumstances; it is *always* conditional, and it is conditional in various degrees. Some morbid poisons are more subtile than others; they require a greater degree of dilution, for you may dilute them till they are in-

nocuous. If the streets of London, or of our large towns, were as narrow as they used to be in the middle ages, when epidemics were so rife, I believe we should have fevers as bad now as they were then, for the only difference is, that the fæcal accumulations of the people are collected a little way under the surface instead of upon it. There is the same amount of miasm, but more air passes over and through the streets, and dilutes it. Infection is conditional, too, as regards the recipient; a person, for example, who has once suffered, enjoys an immunity from any further attack. This is the case with many fevers—almost all, if not all, the exanthematous fevers, including exanthematous typhus. It is so also with yellow fever of a particular type, and some authors have made the same remark respecting the Asiatic cholera and the Levant plague. Probably the law rules more extensively than it has been observed to rule, and thus we may explain some of the fiercely opposing statements of the contagionists and the anti-contagionists. Infection is conditional, too, on the state of health of the organization that receives it, or even of the organs for which it has an elective affinity. Twenty persons travel across a marsh; five have ague two days after, five seven days after, five three weeks after, five not at all,—all get the miasm, nevertheless, at the same time. And no doubt the miasm of our drains, and of the diseases it excites, while it chiefly affects persons already subject to diarrhœa, in thousands and ten thousands of instances passes quietly through the system, just as other poisons will (mercury for example), and never produces its specific effects. People very often adduce this fact as a proof of the innocence of miasms and morbid poisons;—they will quote themselves as examples of persons who have never suffered, although often, nay, perhaps, continually, exposed to infection. All you can answer is, that they ought to thank Divine Providence for an organization such that the poison is quickly thrown off. Why this happens is yet a mystery in physiology and pathology. I never yet heard or read an hypothesis which satisfactorily explained to me why a person who has had variola or vaccinia once, never suffers from them again. It is idle to say that the poison is not taken into the system. I suspect that the immunity is consequent upon some change induced by a previous attack in the elective affinities of the secreting organs; the miasm is, perhaps, excreted as soon as received, just as bile or urea is excreted as soon as formed. Why, I have no idea. But you have the facts of immunity from a previous attack—of immunity from habitual exposure—of immunity from a congenital organization—of immunity from excessive dilution—of immunity from unknown causes; and unless you bear these and similar facts in mind, in your investigations of the laws which regulate the origin and spread of epidemic diseases, you will be continually involved in contradictions. During next session I shall, I hope, have an opportunity of stating the character and nature of these laws in considerable detail, with some new views and facts, and with strict reference to practical results.

It is well to know the topography of your professional work-cirele, as the Germans eall it, espeeially with reference to the origin of malaria and the course it travels (whieh will be the direction of the prevailing winds of the loeality), and the efficieney of it, which will depend a good deal on the ventilation of the houses and streets, or courts—a good deal on the hygrometrie tension of the atmosphere, and a good deal on the sorts of eompounds from the decomposition of which it originates. I am inelined to think that the excretions of swine and of human beings give off the worst. I speak now of the source of civic malaria, and not of malaria generally; otherwise the miasms from salt-water marshes are perhaps worse than these. The next in virulenee are putrid water-butts and eisterns of water-closets, and emanations from water-closets themselves. Then the emanations from sewers, espeeially if eonneeted with burial-grounds or slaughter-houses. Indeed, these latter belong to the first rank. Heaps of cow-dung or horse-dung are less injurious than the preceding, and ehandleries follow after these. Sometimes eellars get flooded after heavy rains, and in summer send up a foul damp miasm, and this is bad. You must remember that the general tendeney of these miasms is to aseend. When the wind blows up or down the river with foree, I suspeet it blows the miasm up the mouths of the drains whieh open into it; there is a baek air as well as a baek water, and this eseapes through the gully holes in the course of the sewer.

London Medical Gazette, August 7, 1846, *p.* 229.

4.—*Treatment of Typhus and Enteric Fever.*—By Dr Ritchie, Glasgow.—[Dr. Ritehie, in a paper "On the continued Fevers of Great Britain, and on the generie distinctions betweeu Enterie Fever and Typhus," enters at large on this subjeet in the *Monthly Journal*, pointing out first the points of agreement, and seeondly the points of distinction. Under the last head he has made some excellent remarks. He says,]

1. They differ in their ordinary exciting cause. Of a hundred cases of typhus, 80 per eent. will be traeeable to eontagion; while of enteric fever, a proportion equal perhaps to 90 per cent. will as readily be referable to exposure to a ehill.

2. Unless under eireumstances of strong predisposition, or of great intenseness of the eontagious prineiple, typhus is seldom developed before the second week after exposure; but, in enteric fever, the commeneement of morbid phenomena is usually quite consecutive on the applieation of eold and wet, its exciting causes.

3. The *modus operandi* of the exciting eause, and the proeession of pathologieal conditions which give rise suceessively to the series of symptoms in eaeh are different. It would be preposterous to assert that the contagion of typhus exerts its morbifie influence on the cutaneous surface; and it is not less so to deny that the atmospheric agencies which are the usual, though not exelusive, cause of enteric fever, do so. The poisonous miasm from the living human

body which excites typhus, operates on the nervous centres through contact with the ganglionic system in the lungs and stomach, and through the blood. It does so as a direct sedative; and, when its quantity is great, or its virulence undiluted, vital depression may be its only obvious consequence. In the more usual degrees of exposure, the animal powers, after sustaining a certain direct debilitating influence, are excited to a sanative effort. The tumultuary disturbance of all the organs to which this leads, at once occasions a deceptive appearance of inflammatory action; and, by aggravating, according to its violence, the debility which was previously present, insures the supervention of a state of collapse. In this stage there is diminished vital power and arterial action, united with accumulation of blood in the venous system, and hence arises a new train of effects on the brain, nerves, and venous capillaries, which, but for the element of periodicity, which tends to control healthfully every fever, would prove invariably fatal.

In enteric fever, again, the morbific cause may reach the cerebro-spinal axis either by the same course as that of typhus, or by the peripheral cutaneous branches of that system. The irritation in this latter case of the brain and medulla, and reflexly of the organs, is immediate, and the constitutional disturbance thus raised, while it often closely simulates the corresponding stage in typhus, has this generic distinction, that instead of terminating from the sixth to the tenth or twelfth day in vital collapse and venous congestion, it is at the same dates sometimes succeeded by, and at others it is associated with the maximum development previous to ulceration, of follicular inflammation of the ileum, and often of the other intestines large and small. And from this period the pathological agencies to be feared are, not the accumulation of black blood in the veins of the brain, impeding all the functions of organic life and especially that of respiration, and the stagnation of all the peripheral veins, oppressing and often overpowering the heart, which are the noxious conditions to be resisted in the last stage of typhus, but simply the direct influence on the organic and other nerves, of the ulcerations of the intestines, and, should this be survived, the chance of hæmorrhage or of perforation of the walls of the bowels.

4. The general sequence of phenomena, and the relative proportions to one another of the various morbid conditions which constitute the two affections respectively, are different in each.

In typhus there is, after the reception of the poison, a variable period of incubation, distinguished by an impairment of all the functions, which is succeeded by about seven days of reaction, followed by about another week of subsidence or collapse, which again terminates, either in a similar period of convalescence or of accumulated complication.

In enteric fever, on the other hand, irritation of the cerebro-spinal system and of the intestines follow the application of the exciting cause, without the intervention of any distinct formative

stage. The irritative or tumultuous stage of enteric fever is its true initiatory stage, while in typhus this is constituted by a condition of depressed and diminished action. Neither is there any precision in the succession in enteric fever of a period of collapse to that of reaction, such as is observed in typhus, and when any approach to this does occur, the asthenia is far from being of that unmixed kind attended by sopor which is common in that affection, but is ordinarily counteracted by the local inflammatory complications, and the patient can commonly be aroused from it with comparative ease. The complexion of the case also is more varied by perceptible remissions and exacerbations than one of typhus would; and the period of crisis, instead of happening on the fourteenth day, as is the rule in the latter fever, rarely shows itself before the twenty-first, and more generally later. Its complications also are more numerous, and instead of requiring a curriculum of a month only for the completion of all its stages. which is about the average in typhus, this is more usually in enteric fever extended to three months.

[He sums up the method of treatment as follows:]

In typhus the general indication is to nurse the vital powers. This is done, 1st, during the formative stage, by early confinement to bed, and by a light cordial regimen; 2nd, In the tumultuary or irritative stage, by such means as are fitted to moderate the nervous excitement, and increased vascular action, such as the gentlest laxatives, small doses of opium mixed with ipecacuan, tartrate of antimony, or acetate of ammonia, tepid sponging of the general surface, cold to the head, tepid or warm foot-baths, mild or cooling drinks, and farinaceous food. 3rd, In the stage of subsidence or collapse, by sustaining the heart's action, in proportion as it fails, with wine internally, and with the carefully maintained use externally, of warm fomentations to the trunk and limbs, aided in bad cases by ardent spirit added to the wine, and by more or less mustard to the fomentations. 4th, In the stage of complication, or of consecutive local disease, by modifications in the treatment now described, and by the addition of other appliances, according so the organ affected, the severity of the lesion, and the state of the strength.

In enteric fever, again, the chief indication is to destroy the inflammatory action in the follicles of the intestines, and in the lungs, when it exists there, consistently with a due regard to the irritation of the cerebro-spinal axis, and the loss of fibrine, and of red globules by the blood, which distinguish this disease from simple inflammation. This is to be done, 1st, by restoring the circulation and secretion of the skin by the warm-bath, and a flannel under dress; 2nd, by detraction of blood by cupping or leeches from the abdomen or loins; 3rd, by blisters, and afterwards constant warm fomentations to the abdomen; 4th, by the steady use of opium, united with ipecacuan, borax, and chalk, with or

without catechu, and in doses proportioned to the severity of the diarrhœa; or, where this symptom resists these means, and the bronchitis is not acute, by the addition to the opium of acetate of lead; 5th, by a strictly farinaceous or a milk diet; 6th, besides these modes of fulfilling the indication mentioned, it is necessary to support the strength, in advanced stages, to the extent that the bronchitis does not prevent, by the use of small quantities of wine. Pneumonia is to be met by mercurial frictions externally, and by the hydrargyrum c. creta internally; and hæmorrhage from the bowels, by super-acetate of lead, and renewed blisters to the abdomen; or, when the fever of pneumonia forbids the employment of the acetate of lead, by the use of turpentine.

Monthly Journal of Medical Science, Oct. 1846, *p.* 250.

5.—*On the use of Preparations of Iron in Fever.*—By T. T. Tuckwell, Esq. [In a letter to the *Medical Gazette* of July 24, Mr. Tuckwell alludes to the valuable therapeutic efficacy, of one of our most useful and powerful tonics in the treatment of Typhoid Erysipelas. He says]

The medicine to which I allude is *iron*, and the formula I have adopted in its administration has been that of the mist. ferri co. (Ph. L.), substituting, in the place of the carbonate of potash, the sesquicarbonate of ammonia, if called on to prescribe when symptoms of debility are urgent, and death by asthenia is threatened.

Some may feel inclined to attribute the success of this treatment as much to the stimulating effects of the ammonia as to any peculiar properties of the iron itself. Experience, has, however, convinced me that such is not the case, and that we have in the latter an agent capable of exerting great control over the disorder, and of improving the character of the constitutional symptoms attendant on the atonic form of the disease.

The iron may be safely commenced as soon as any amount of gastric disturbance previously present has been removed, and when the febrile symptoms, by their change of character, betray an adynamic condition of the disease, and a sinking of vital power.

A dull or dusky colour of the eruption, and the temperature of the part affected not exceeding that of the surrounding healthy portions of the skin, are good indications for its immediate employment.

The presence or persistence of the symptoms of common inflammatory fever would of course contraindicate its use, and not until these have been removed have I ventured upon its exhibition.

Where there is exhaustion of nervous power, I have much faith in valerian combined with the iron mixture; and should there be a tendency to coma, or it be actually present, turpentine as an enema, and by mouth, as recommended by Dr. Copland, is truly valuable.

Medical Gazette, July 24, 1846, *p.* 173.

6.—*On the Plague.*—At a meeting of the Academy of Medicine, M. Pariset observes that with *pure air and water, with healthy food in moderate proportions, none of those singular mutations productive of death in man or animals could exist.*— The excess of food or of abstinence, of labour or of repose, and sudden changes of temperature might cause disease but never the plague. To occasion the plague, the air, water, or food, must introduce into the human system foreign elements of disease, and these were the emanations,—the miasmata disengaged by the putrid bodies of animals and man. This was not only the opinion of the orator, but of the most respected authorities—of A. Paré, Diemerbroek, Pringle, Huxham, Haller—of the best observers, of the most learned physicians,—and if in Europe these causes were neutralised by others, such as the sudden changes of weather, general habits of cleanliness, good food, and particularly the quality of the soil of our burial-grounds, yet they still cause the preliminaries, and almost the equivalents of the plague, in the shape of suffocations, syncopes, sudden deaths, ophthalmia, cephalalgia, diarrhæa, dysentery, and those malignant fevers so closely allied to pestilence, and those universal exanthemata seen by Diemerbroek, and observed by M. Pariset in Syria.

The composition of the soil of burial-grounds was in M. Pariset's opinion an important and interesting chemical question. Vicq d'Azyr saw at Toulouse two churches in which the dead bodies were naturally preserved; M. Danger had informed M. Pariset that in limy or argilaceous soils the decomposition of the bodies was followed with no emanation. M. Pariset further stated that in this respect corpses differed much from each other, and recalled the statement of Ammidianus Marcellinus on the different decomposition of the bodies of the Romans and Persians after the battle of Aminium.

It is, in M. Pariset's opinion, a probability nearly akin to a demonstrated fact, that the putrefaction of animal matter, and particularly of human remains, is the cause of the plague. It would remain, therefore, only to discover if in the world one spot exists in which that morbid cause acted with sufficient intensity to produce the disease in a permanent manner. Syria had been talked of, and yet it was one of the healthiest lands in the universe. Scanderoun is, it is true, surrounded with marshes, but that city never had the plague before the year 1761, when the disorder was brought there from Constantinople or Egypt. The plague never begins in the interior of Lebanon, that long chain of mountains, the feet of which bathe in the sea. It is always in some maritime city, near the Mediterranean, that the pestilence originates—Byass, Tripoli, Beyrout, Scyde, Tyre, or St. Jean d'Acre. These towns always take the plague from Syria, and Syria from Egypt, and more rarely from Constantinople. This is true also for the Ionian Islands, Asia Minor, Adana—it is true even for Constantinople; there the few precautionary measures which have been taken have sufficed to arrest the inroads of the epidemic.

In M. Pariset's opinion, and as the result of his long observation in the Levant, he would say that only one country in the world existed in which the plague was permanent; that country was Egypt. But how is it then that this country, formerly so healthy, had now become a sojourn of ruin and death?—it was entirely due to the emanation from the human and animal corpses.

Ambrose Paré tells us that in 1562, the caves of the Castle of Pénes, filled with corpses to a depth of 300 feet, caused by their fœtid emanation, several cases of plague in the province of Agenois. The same thing is to this day going on in Egypt, where formerly all putrescible matter was preserved in bitumen, in linen, jars, and stone coffins, and buried in caverns, more durable than temples or monuments. Now-a-days, on the contrary, the bodies are buried without preparation, and the heat of the sun makes Egypt an immense distillery of corpses. It is only by endeavouring to remedy this order of things, by removing cemeteries to the desert, and cutting canals for the alkaline waters of the Nile, that the country can ever be made healthy.

M. Londe then read a letter which he had received from Clot-Bey, of which the following is an abstract:—

"1st. It was as impossible to point out the date of the first plague, as that of the first appearauce of yellow fever, cholera, or any other epidemic disorder. 2nd. The commission considered the plague as analogous with typhus, forgetting that typhus never assumes a general epidemic character, that it is a disease of all countries, that its causes are always appreciable; that typhus could be at will produced artificially; whereas the plague requires special conditions of climate and season, that no artificial means whatever can produce it. 3rd. Not a single case of contagion of the plague in European Lazarets has yet been brought forward, and it is proved that the unloading of the bales of cotton from Egypt has not yet, in one solitary instance, communicated the plague. 4th. It is as impossible, by hygienic regulations, to destroy the plague in the Levant, as it is to destroy yellow fever and cholera, because neither the climate nor the physical constitution of the Eastern countries can be modified. It is a mistake to attribute the immunity enjoyed by Turkey and Egypt, during three years, to the few sanitary laws lately enacted; before these laws were enforced, periods of ten years had elapsed without the plague making its appearance.

Medical Times, July 25, 1846, *p.* 323.

7.—*On the Differential Characters of Measles and Scarlatina.*—[M. Chomel, in clinical observations on two patients recently admitted to the Hôtel Dieu, dwelt on the distinctive characters of the eruption of measles and that of scarlatina. Occasionally the eruption in scarlatina, instead of presenting a decided and uniform

redness, is punctated, and so similar to that of measles as to require some attention to distinguish it. By aid of the following characters a mistake may be avoided:—When the eruption of scarlatina is punctated, the spots are equal, uniform, symmetrical, and their colour is everywhere the same, as are also the volume of shape of the minute vesicles often present. Measles, on the contrary, presents a great diversity in the colour, the shape, and the size of the spots. Again, small miliary tubercles occur pretty commonly in scarlatina, and but seldom in measles; furthermore, small subcutaneous ecchymoses occur in measles, but not in scarlatina.

M. Chomel considers another character as quite decisive, which is not, however, mentioned by authors: this is the aspect of the sputæ in measles. Those sputæ consist of opaque mammular masses of a grayish colour which float in a quantity of liquid; at first sight they resemble the sputæ of the second stage of phthisis, but independently of the concomitant circumstances which render a mistake in this respect impossible, the sputæ of measles differ from those of phthisis in this, that the liquid in which they float is transparent in phthisis, while in measles it is thick and viscid. This character of the sputæ has not been noticed by authors, doubtless because they have described the disease as it affects children who do not expectorate.—*Gazette des Hôpitaux.*

Dublin Medical Press, July 29, 1846, *p.* 70.

8.—*On the Contagiousness of Puerperal Fever, and its intimate connection or association with Erysipelatous and Phlebitic Inflammation.*—By Dr. Peddie.—[The conclusions of Dr. Peddie are much the same as those of several authors whose views will be found in preceding volumes of this Retrospect. They cannot, however, be too often impressed on the minds of every practitioner. Dr. Peddie arives at the following conclusions:]

1. That a specific virus, of an animal nature, is produced under certain circumstances, and in turn generates a peculiar form of fever in the puerperal state.

2. That the virus frequently originates from erysipelatous inflammation.

3. When once generated, it may be communicated from one lying-in patient to another with extraordinary virulence, quite independently of locality or epidemic influence, either by direct intercourse, or through the medium of a third person; and that this is more likely to happen where the predispositions of a weak body and a depressed mind exist.

4. That it may also produce disease of various kinds in non-puerperal individuals; more especially of an erysipelatous and phlebitic character.

5. That the treatment of a contagious puerperal fever, whether directed by theoretical opinions, or the indications of physical signs, proves of little avail; but that if any theory is to be entertained respecting this malady, it should be that something of a specific

and morbific nature requires to be thrown out of the system, and the powers of life at the same time sustained; and that the practice which holds out the greatest prospect, small at best, of this being accomplished, is the adoption of the diaphoretic and stimulant plans, according to the stage of the disease.

6. That the principal concern of the medical man should be (seeing that a cure is so rare) to adopt every conceivable precaution against the occurrence of a single case of this disease, or to lessen the risk of its propagation. And to attain these ends patients in child-bed should either not be attended at the same period with cases of malignant or severe erysipelas, or that proper caution should be observed as to ablutions, more especially after contact with any discharge from such patients; and when a case of puerperal fever does occur, lest it should be something more than sporadic, chlorinated ablutions and change of garments is first required; and should a second case occur, it would be the safest plan for the practitioner to abandon the practice of midwifery for a time—two or three weeks, if possible—and in the interval attempt—by removal into the country, warm baths, and other alterative and purifying means, and by the exposure of his clothing to a free atmosphere or a high temperature, to rid himself of the subtle and powerful virus which adheres to him so tenaciously.—*Monthly Journal of Medical Science.*

London Medical Gazette, May 8, 1846, p. 835.

DISEASES OF THE NERVOUS SYSTEM.

9.—ON TUBERCLE OF THE BRAIN IN CHILDREN.

By J. M. Adams, Esq.

[Mr. Adams unites the statements of M. Rilliet, Dr. Hennis Green, and others, with the results of his own experience on this form of disease; he does not, however, include tubercular disease of the meninges, the tubercular meningitis or arachnitis of the French. He describes the affection as follows:]

A child of a few years old, of a scrofulous habit or tendency, is affected for several weeks or months with headache of an intermitting character, often accompanied with vomiting or nervous tremors. These are followed by a sense of debility and disinclination for motion or ordinary sports and exercises. Epileptic seizures, convulsions, or strabismus, may also be present. Gradually the disposition of the child alters, and he appears fretful, retired, and melancholy. The appetite becomes depraved, or entirely fails, the bowels constipated, and the body attenuated. The face acquires a peculiar pallid, anxious expression. As the disorder advances, these symptoms, at first partial and intermitting, increase in frequency and

severity, and at length are permanent; when, after several days of complete or partial stupor, the child dies comatose or convulsed.

Among other particulars, it is mentioned that—

The appearance of the countenance is worthy of note. Dr. Gerhard informs us, that it is so peculiar, that the sister of one of the wards at the children's hospital was accustomed to distinguish the disease with much accuracy, from the mere aspect of the child. The face is pale, with occasional flushes of redness on one or both cheeks; mouth frequently a little deviated; lips compressed or half open; the eyelids are almost invariably closed, or a little separated; nostrils widely dilated. But the most distinctive character is the peculiar listless expression, with occasional grimaces and movements of the lips, as if tasting an article of food; this character does not admit of description, it must be seen to be appreciated.

It is further observed, that—

An acute form of the disease is occasionally met with, having a rapid course, and the symptoms of which are so closely assimilated to those of acute hydrocephalus, that they alone will hardly furnish sufficient data for a correct diagnosis. There are few practitioners who are in the habit of verifying their opinions and practice by necroscopic observations, who cannot recal to their remembrance cases of "acute hydrocephalus," where inspection after death showed the presence of tubercules in the brain, but which were regarded at the time as a mere evidence of an unhealthy constitution or anomalous coincidence, and not as having any especial connection with the disease for which the patient had been treated. Such cases generally terminate fatally, within a period of a fortnight or three weeks, and the symptoms accord pretty nearly with the following description:—During a state of ordinary health, and after some violent exciting cause, as a blow or fall, or more frequently when convalescing from some infantile disorder, a child is suddenly seized with convulsions, headache, or vomiting, followed often by paralysis of the lower limbs or one side of the body; the bowels are commonly constipated, and the appetite fails; the intelligence meanwhile remains good. The child continues in this condition for a period varying from a few hours to a fortnight, and seldom longer than three weeks, and death finally ensues, attended with coma or convulsions.

[To shew the period at which the disease generally manifests itself, Mr. Adams divides the time it is usually met with into four periods. Out of 131 cases under 15 years old, there were 16 cases under 3 years, 44 from 3 to 5 years, 57 from 6 to 10 years, and 21 from 11 to 15 years.]

It thus appears that, under the age of 3 years and above that of 10 years, the disease is comparatively rare; while from 3 to 10 years it is of most frequent occurrence; the two periods mentioned giving respectively 37 and 101 cases. The collective ages of these 131 patients gives an average of rather more than $6\frac{1}{2}$ years, and about this age, which corresponds with the commencement of the second dentition, it will be found that the majority of cases occur.

Tubercles are found in the brain in three distinct forms: 1st. Isolated in rounded portions, from the size of a millet-seed to that of masses five inches in thickness. 2nd. As a layer of tuberculous matter situated between the membranes and external cineritious substance of the brain, commonly following the direction of the sulci, and modelled on the external surface of the brain. 3rd. Infiltrated in the substance of the organ. The first of these lesions is by far the most common, the second variety is uncommon; the third exceedingly rare. All the cases that have come under the author's own notice, and nearly all that he has found recorded, belong to the first description.

The affections with which tubercles of the brain may be confounded, are acute and chronic hydrocephalus, cerebriform tumors of the brain, hydatids, arachnoidean hæmorrhage, and hypertrophy of the brain. Now, the symptoms to which each and all of these may give rise, are so associated and so much alike, that it would be exceedingly difficult to classify them with anything like precision; yet there are circumstances in the history of the patient, and also of these different affections, which increase or lessen the probabilities of their existence, and these should be considered in detail as the cases present themselves. The author alludes, briefly, to some of them.

Thus, chronic hydrocephalus is rare after the age of three years, while it is mostly after that period that the hydrocephalus of tubercle is observed. True epileptic seizures, or amaurosis, independent of general insensibility, so frequent in the tubercle, are, Dr. Adams believes, rarely noticed in uncomplicated hydrocephalus, either chronic or acute, but mostly in connection with tumors or growths within the cranium. Cancerous tumors of the brain produce symptoms so analogous to tubercle, that it would be affectation to draw a marked line between them. But the researches of Dr. Walshe establish the fact that cerebral cancer is of very unfrequent occurrence in early life, but that it becomes more common with advanced age; for of fifty-six cases of cerebral cancer occurring in individuals up to eighty years of age, there were found only five instances under the age of ten years. It will be recollected that cerebral tubercle occurs in an increased ratio; consequently, when there is evidence of the presence of a cerebral tumor co-existing with a scrofulous diathesis, the chances of its being cancerous are reduced almost to zero. The author lays great stress upon the existence of a well-marked scrofulous constitution, as a diagnostic sign in cases of this description.

It is, therefore, from a knowledge of the frequent occurrence of tubercle of the brain in children, from the presence of a strumous diathesis, from the irregularity of certain well-marked cerebral symptoms, and the irregular intervals which separate one symptom from another, that the diagnosis of this affection mainlydepends An attack of epilepsy may not be succeeded by any appreciabl sign of ill health, for several months or a year. But if in a child

so affected, and which besides gives evidence of a scrofulous diathesis, there should occur headache, vomiting, nervous tremors, paralysis, amaurosis, change of temper, &c., each or all of these symptoms, if they follow a variable course, having intervals, exacerbations, and accesses of fever, in the manner I have previously described, we have then every reason to believe that the child has tubercle of the brain.

With regard to treatment, the author has nothing to say. The complaint appears to have been invariably fatal; and the treatment hitherto employed seems not even to have afforded the poor satisfaction of mitigating symptoms. In the way of prevention, there is greater encouragement to the medical man, for he can adopt such means in strumous families as are likely to strengthen the general health, and to counteract the tendency to so fatal a malady.

Medical Gazette, July 24, 1846, *p.* 166.

10.—*Remarks on recent cases of Cerebro-Spinal Arachnitis in the Irish Workhouses and Dublin Hospitals.*—By R. Mayne, M.B., &c. &c.—[This disease attracted a great deal of attention in France during the years 1840-1 and 2, having occurred in an epidemic form. The subject was laid before the Royale Académie de Médécine. It has shown itself in three different localities in Ireland, the attention of the profession being first called to it by Dr. Darby, of Bray.]

Its pathology seems to have been nearly uniformly the same, wherever examined: the serous membrane covering the brain and spinal marrow has been found invariably the seat of extensive inflammation; and, unlike the more ordinary forms of arachnitis, the *spinal* arachnoid always suffers much more severely than the *cerebral.*

In the post mortem examinations which have fallen under my notice, the scalp and dura mater exhibited but little undue vascularity; the pia mater covering the hemispheres of the brain was congested, and the large veins in their way to the several sinuses appeared remarkably turgid.

The free surface of the cranial arachnoid felt dry and clammy, and had lost its transparency in many places, particularly at the base of the brain; but there was no lymph or other inflammatory effusion in the sac of the arachnoid, Lymph of a yellowish or greenish hue appeared on the surface of the encephalon *beneath* the the serous tunic; this occurred sparingly on the upper surfaces of the hemispheres, and there only along the sulci, but at the base of the brain it was found in greater quantities, especially in the sub-arachnoid space corresponding to the circle of Willis, where many of the cerebral nerves at their origin were fairly imbedded in it.

In the spinal canal a similar exudation filled the sub-arachnoid space; it there existed in sufficient abundance to envelope the cord completely; it also extended down to the lowest extremity of the

cauda equina, investing each of the spinal nerves at its source; but in the vertebral canal, just as in the cranium, the cavity of the arachnoid contained none of this morbid secretion. The substance of the brain and spinal marrow appeared remarkably free from lesion; there was no unusual vascularity, induration, or softening apparent, nor did the ventricles betray any evidence of inflammation.

In the cases reported, however, the brain and spinal marrow are stated to have been occasionally implicated; in some the ventricles of the brain contained inflammatory effusions and the choroid plexuses appeared unusually vascular, in others more or less of the substance of the brain and spinal marrow was found in a state of softening; in a certain number sero-purulent effusion was detected at the base of the brain and in the theca vertebralis; but in every instance the serous membrane was the part essentially engaged, whilst the nervous material seldom suffered, and when affected it was only accidentally involved, the disease having been in such cases evidently propagated to the substance of the cerebro-spinal axis from its membranous investments.

[It is a very remarkable fact that in Ireland nearly all the cases were boys, and under twelve years of age. In France it appeared most amongst conscripts who had recently joined the army. In most of the cases the disease has come on very suddenly. In the South Dublin Union Workhouse the boys had generally retired to bed in good health apparently, when the disease all at once declared itself.]

In many instances it commences with severe pain in the abdomen, followed immediately by vomiting, and not unfrequently by purging. In the worst cases these symptoms are accompanied by marked collapse, the extremities are cold and blueish, the pulse is at this time a mere thread, and, altogether, the disease assumes very much the aspect of cholera. After the lapse of a few hours, reaction, more or less perfect, ensues; the muscular system then presents characters which may be considered almost pathognomonic. The muscles of the extremities, and those of the neck in particular, become remarkably rigid, the head is drawn back upon the vertebral column, and firmly fixed in that unnatural position; no efforts of the patient can bend it forwards, neither can the attendants do so, at least by the employment of any justifiable force. The countenance at this period often assumes very much the tetanic expression; twitching of the muscles of the face sometimes ensue; the patient loses in great measure the power of moving his extremities, so that he is quite unable to assume the erect position, the surface becomes hot, the pulse full and frequent, (from 120 to 140); the stomach often continues irritable, whilst an insatiable thirst torments the sufferer; and the epigastrium evinces marked tenderness upon pressure.

Symptoms of a still more distressing nature quickly supervene: the patient may be seized with general convulsions, of frightful

severity, requiring personal restraint to protect him from injury; or he may lie in a semi-comatose condition, constantly moaning and grinding his teeth, or even crying incessantly. Towards the close of his sufferings he generally merges into perfect coma, the pulse becomes slow and laboured, the powers of speech and deglutition fail, his stools are passed involuntarily, and death finally closes the scene. All this may occur in a surprisingly short space of time; some of the cases ran their course in forty-eight hours, and the greater number terminated about the fourth day, whilst some few were prolonged over a fortnight or three weeks. Examples are on record of death from the disease in so short a period as fifteen hours.

It should be mentioned, that although in some cases symptoms directly indicative of mischief within the cranium were early observed, such as pain more or less intense in the head, heat of scalp, congestion of the conjunctiva, strabismus, intolerance of light, &c, yet in many no such evidence occurred, until the laboured pulse, the dilated pupil, the profound coma, or the severe convulsion, told but too plainly that the death-struggle was at hand,

[The cases in Ireland have generally proved fatal, although treated by several different physicians. In France, however, the mortality was still greater than there; one physician having lost 29 out of 30 cases committed to his care. The French appear to have lost sight of the advantages to be looked for from mercury in these cases, whilst in Great Britain and Ireland the chief dependence is placed upon it. There is no doubt from this affection appearing in many places at the same time, and from its not being propagated by contagion, that this disease is of an epidemic character.]

Dublin Quarterly Journal of Medical Science, Aug. 1846, *p.* 95.

11.—*Trismus Nascentium.—Its Pathology and Treatment.*—By J. Marion Sims, M.D., of Montgomery, Alabama, United States.—[Trismus Nacentium has always been regarded, and very justly too, as one of the opprobria medicorum. Its causes, remote and exciting, have ever been points of debate and conjecture, and of its *true pathology* we have never had any settled opinion. Its *treatment* has consequently been one of varied empiricism. It will be my endeavour, continues Dr. Sims, to point out *the peculiar causes* of this disease; *to explain their modus operandi*, to demonstrate the seat of patholog cal changes, and to deduce a *rational course of treatment;* aud shall begin by relating a case as the foundation of the remarks that follow:—

The patient, aged 26. On the 15th July, 1845, she was taken in labour of her 5th pregnancy, and delivered of twin girls again. One was apparently still-born, and could be with difficulty made to live. It, however, went on well until the 21st, when it refused to suck. On Tuesday it screamed a good deal, its jaws still closed, and with the addition of occasional spells of jerking or spasms. On Wed-

nesday, about seven o'clock P.M., Dr. Sims saw it for the first time, being forty-eight hours from the time of the attack. Its body was rigid; legs straight and stiff; the toes everted, and heels resting against each other. If the heels were separated and let loose, they would suddenly fly together, like the blades of a spring forceps. The arms were pinioned to the sides; the fore arms were firmly flexed at right angles; the hands clenched tightly, and the jaws were closely locked. The least effort to extend the forearm, caused great pain and excited general clonic spasms; the expression of countenance was mild and serene, notwithstanding the great rigidity of the body and extremities, till the supervention of clonic spasms which happened every few minutes, either spontaneously or as the result of some exciting agent, such as sound, motion, or the lighting of a fly on the face, when the whole frame seemed to become more rigid, the hands more tightly clenched, with a quivering motion, giving it the appearance of "shaking the fist." The jaws were closely locked; the head jerked backwards; the lips compressed; the cheeks elevated; and these symptoms accompanied with a mournful whining cry. This aggravation of symptoms would last from three to fifteen minutes, and then would come on the clonic spasms as already described. Deglutition was somewhat impeded, but not suspended. The condition of the pupils could not be ascertained in consequence of exciting spasms by any effort at separating the lids; respiration greatly accelerated; bowels costive. The child had taken syr. rhei., magnesia, and occasionally tr. opii, but without effect. Ordered warm bath, cal. oil, and enemata. Found the child worse on the next day (Thursday), all symptoms increased in intensity; ordered "Dewees Colic Mixture," as an antispasmodic, which was supposed to have exerted some little influence in moderating the spasms. Thursday evening—still no better. Gave two grs. of quinine in in two doses, in some of the colic mixture. Next morning (Friday), worse than ever, and not able to swallow at all; spasms more frequent; general rigidity, greater than at any time before.]

My friend Dr. Vickers visited the little sufferer with me this morning. Many experiments were performed to demonstrate, before the Doctor, the reflex action of the excito-motor system and its exceedingly delicate impressibility to the gentlest touch. To show the great rigidity of the frame, I caught hold of the feet and raised the whole body without flexing the thighs on the pelvis. At last I run my hand under the head for the purpose of elevating the body in the same way, when I immediately detected a *remarkable irregularity* in the feeling of the bones. *It had lain during the whole of its illness exactly in one position all the time, the weight of the head resting wholly on the os occipitis.* Its pulse was now uncountable ; respiration more frequent than I had ever seen it before under any circumstances; it was breathing 120 times in a minute, and looked as if it could not possibly live an hour. I raised it up to examine the head more particularly, and set it on my knee, or rather leaned it against the knee, for the tonic rigidity of the muscles prevented

the flexure of the thighs to a sufficient degree for the sitting posture. After holding it so for some ten or twelve minutes, what was my surprise to find a rapid amelioration of all its bad symptoms! True, the tonic rigidity remained the same, but the clonic spasms became less frequent and less intense; the whole expression was less disturbed; and the respiration fell, in this short space of time, from 120 down to 70 in a minute. I now felt convinced that *position* had a great deal to do in the production of this disease. On examining the head, I discovered that the fontanelles were open and very large, particularly the anterior, that the bones were loosely attached by their commissures, and that the *os occipitis was pushed in on the brain, being overlapped for a quarter of an inch or more along the whole course of the lambdoidal suture, by the edges of the ossa parietalia.* I had the child laid on its side, so as to take the weight of the body from the os occipitis. It died about sundown, on Friday, 25th July, having been sick about 96 hours.

Through the kindness of Mr. Stickney, and with the consent of the mother, a post-mortem examination was made the next morning at ten o'clock. I am indebted to my friend Dr. Ames for the following notes made at the time.

"No emaciation; countenance tranquil; slight cadaveric discoloration of back.

"*Head.*—Anterior fontanelle large, triangular; coronal suture open in its full extent; sagittal same, open to ossa nasi) parietal bones overlap the frontal slightly; the occipital for the fourth of an inch along the whole of the lambdoidal commissure; gentle pressure on the occipital bone projects the brain forwards, producing a considerable fullness of the anterior fontanelle.

"*Brain.*—Superficial vessels full of black blood, *particularly posteriorly.* Interior of the brain natural in appearance.

"*Spine.—Coagulum of blood occupying the spine in its whole length, enveloping perfectly the medulla spinalis; thicker as it approaches the brain. Spinal veins full of black blood.*

"Thoracic and abdominal viscera healthy; nothing unnatural about the appearance of the umbilicus."

Curling, in his admirable "*Treatise on Tetanus*," tells us that "Dr. Goëlis, of Vienna, in the examination of children who have died of this disease in the Foundling Hospital of that city, found an appearance of *increased vascularity in the substance of and in the membranes enveloping the upper part of the spinal marrow.*" And that Dr. Thompson, of Philadelphia, had also *observed the same thing.*

M. Billard (Stewart's edition, page 490), says that he "found on dissection *nothing more* (*!*) *than an effusion of a quantity of coagulated blood in the spine.* This blood was effused between the two laminæ of the tunica arachnoidea, and *filled the whole of the medullary canal from the medulla oblongata to the sacral region.*" And, after finding this morbid appearance and no other, he gravely asks the question, "Were the symptoms of tetanus to be ascribed to

this hæmorrhage of the spine?" What more did he want to account for the distressing symptoms and fatal termination of the disease than this "hæmorrhage of the spine?" Did ever cause and effect stand more intimately connected? Is not the presence of this effusion a sufficient explanation of all the phenomena of the disease? Are not the tetanic spasms the very result that we would reasonably and almost invariably calculate on finding in "spinal hæmorrhage?" I think so. And, as the real character of this affection has evaded the efforts of all pathological inquirers—Goëlis, Thompson and Billard being the only writers that I can find who agree on any single point relating to it—and as my observations are wholly corroborative of theirs, I must here insist that the true seat of the disease is the spinal canal; that its *morbid anatomy consists, first in a congestion, and then in a rupture of the minute veins and capillaries of the medulla spinalis;* That this is the special and pathognomonic feature of the disease, while every other alleged cause and explanation of symptoms are but mere coincidences.

The next question that naturally arises, is, what produces this venous congestion and capillary rupture, this effusion of coagulated blood, this *spinal apoplexy*, if I might be allowed to apply a term significant of the abnormal appearance? I answer that a simple and ample explanation may be found in the anatomical peculiarities of the fœtal cranium, and spinal circulation, in connection with the imprudent and careless habit in mothers and nurses of allowing infants to remain too long in one position. The imperfect ossification of the cranial bones is *essential* to the production of the disease, while the *position* of the child is its accidental or exciting cause.

I shall leave out of consideration all those circumstances and agencies which have always been regarded as exercising a remote or predisposing influence over the devolopment of this disease, and engage at once in the demonstration of the above proportion.

And first of the fœtal head.—At birth the bones of the cranium are very thin, without diploe, attached only by membranous interstices, called commissures; which is certainly one of the wisest provisions of nature in thus fitting it to be accommodated to the dimensions of the pelvic cavity.

What are the anotomical peculiarities of the os occipitis? Why, it is composed of four separate pieces at birth. "The first and largest extends from the beginning or angle of the lambdoidal suture, to the upper edge of the great occipital foramen. Each side of the foramen and the condyle on it is formed by a distinct piece. The front part is formed by the cuneiform process, which is separate from the other parts and forms the fourth piece."—(Wistar.) The posterior fontanelle occupies the point of junction between the saggital and lambdoidal sutures; the lambdoidal suture separates the occipital from the parietal bones. At the juncture of the temporal with the last-named bones, we have another fontanelle, called the

mastoid or posterial lateral. From the lower end of this fontanelle, just behind the foramen lacerum, a line of division from the imperfect ossification, may be seen running obliquely to the posterior edge of the foramen magnum, thus separating the "pars occipitalis," from the "pars condyloidea." Now by this arrangement, we see that the "pars occipitalis," is, as it were, perfectly isolated from all solid or bony union, having only a membranous connection above, and a semi-cartilaginous one below. This is a provision of nature to diminish the vertical and biparietal diameters of the head during the process of labour: for in every labour the "occipital" portion *always slides beneath the parietal, however slightly the head may be compressed.*"—(Morcau.)

The head by the labour, is elongated in the occipito-frontal diameter to its greatest possible extent, and it is consequently diminished in its vertical diameter to its smallest dimensions, by the parietal bones overlapping the occipital through almost the whole length of the lambdoidal suture. The edge of the occipital is *always* forced up under the edges of the parietal at the posterior fontanelle *in every labour.* There is not an exception to this rule. Now, as the parietal are compressed laterally, to diminish the byparietal diameter, they exercise a degree of traction over the "pars occipitalis" (independently of the forces acting on it from behind), drawing it upwards in a line towards the anterior fontanelle, and thus shortening the vertical diameter. After birth, the bones of the head gradually acquire their proper relative position: the head loses measurably its elongated shape; its vertical diameter increases; the occipital slides slowly from under the parietal; the frontal become more prominent; and the whole cranium assumes the normal oval appearance that of right belongs to extra-uterine life.

Now, suppose the fœtal cranium is not sufficiently well ossified to regain its proper shape by its own inherent elasticity; or, suppose the child is imprudently retained for a length of time in the recumbent posture on a hard mattress, or a folded blanket with a little bit of hard old quilt, or a bunch of dirty clothes, (as we often find amongst negroes), wadded up and stuck under the occiput, what will be the consequence? Why, the occipital bone, instead of regaining its proper position, will be pushed further under the edges of the parietal, and the whole weight of the head resting on the occipital protuberance will thus force the *entire* "pars occipitalis" upwards. If this condition is persisted in, the whole cerebral mass will be displaced; the cerebellum will be compressed between the fossæ cerebelli and the tentorium; and it will thus be tilted forwards so as to produce great pressure on the whole tract of the medulli oblongata as it rests on the basilar process of the os occipitis. What is the result of this long-continued mechanical pressure, with its peculiar displacements? The circulation through the sinuses and veins of the brain is retarded; the compression of the cerebellum obstructs the cerebellar veins;

the posterior edge of the foramen magnum becomes a constricting point on that portion of the medulli-spinal veins which empty their blood into the inferior cerebellar; the force communicated to the medulla oblongata powerfully obstructs that portion of the medulli-spinal veins which run forwards over the anterior or lateral edges of the foramen magnum to empty themselves into the petrosal sinuses; and thus the spinal venous circulation as connected with the brain is entirely cut off.

What is the consequence of this constriction, this ligaturing, as it were, of the medulli spinal veins? Why, at first, there is a simple venous congestion within the dura mater of the cord, produced exactly in the same way that we effect in the veins of the hand and forearm in the ordinary every-day operation of venesection. After a while the *the long tortuous network of thin delicate medulli-spinal veins* is overcome by the persistent constriction above; the blood is extravasated within the dura mater of the cord, enveloping the medulla spinalis perfectly; and then we have the aggravated symptoms that always mark this infallibly fatal stage of the, disease.

What is the reason that extravasation does not take place as soon as the constriction is made at the edges of the foramen magnum? Because the medulli-spinal veins communicate by transverse branches, with the great spinal lying exterior to the dura mater, and thus the blood is carried into the general circulation by their anastomoses with the vertebral, intercostal, azygos, lumbar, and sacral veins. But let the child remain long in this position, and this collateral circulation becomes obstructed. By force of gravitation the spinal veins all become congested; there is no vis-a-tergo to drive the blood horizontally forwards, or I should say (as the child lies on its back), perpendicularly upwards; it almost ceases to flow; and the medulli-spinal ligated above and dammed up on all sides, having no outlet for the blood brought down by the anterior and posterior spinal arteries, must necessarily very soon yield and pour out their contents within the tube of the dura mater. To my mind it is clear that the assemblage of symptoms constituting trismus nascentium, is the result of pressure on the spinal cord exerted by venous congestion and extravasation; and it is equally clear that this effused blood is produced in the way that I have described."

American Journal of Medical Science, April 1846, *p.* 363.

[The Editor of the *Monthly Journal*, in commenting on this view of Dr. Sims, makes the following very judicious remarks:—]

The view taken in the paper condensed above is very interesting, and most probably is in some measure well-founded. But ingeniously as it is wrought out, there is not a sufficient number of examples brought to bear on the conclusion. A *prima facie* case is made out, and what is wanting is a series of instances presenting the two conditions—namely, a defective ossification of the bones, and the unusual confinement of the infant to the supine position,

And of this the author is well aware, as he calls on his medical brethren, where opportunities of observation are offered, to investigate their cases on the grounds which he suggests.

The supine position is so commonly chosen by nurses for infants, as to fail in the satisfactory characters of an exciting cause; and, again, the prevalence of trismus nascentium, under particular circumstances as among negro infants, hardly accords with the idea of defective ossification being an essential condition of its occurrence. It seems extremely probable, however, from the facts stated by our author, that defective ossification really gives an unusual disposition to the disease, and that the careless management of the position of infants, apparently so common among negroes, concurs with this cause, in many instances, to produce extravasation within the spinal canal. It should not be forgotten, that in this country many curable instances of the slighter forms of trismus nascentium are currently thought to be dependent on irritation of the bowels, removable by purgatives.

Were our author's views absolutely and exclusively correct, it would surely be a more commonly fatal cause of death among infants in this country. We have heard it affirmed by practitioners from the British West India Islands, that this disease has become much less frequent among negro infants, since emancipation, owing to the greater care bestowed by the mothers on a free offspring.

Monthly Journal of Medical Science, July, 1846, *p.* 76.

12.—*Case of Traumatic Tetanus, from the attempt to extract a Tooth, cured by Ice applied to the spine.*—By John E. M'Girr, M.D. A lady, 20 years of age, applied to a dentist to extract the second molar tooth on the right side of the lower jaw. The tooth broke, and after several ineffectual attempts to remove the stump, some caustic supposed to be nitric acid was applied, and the patient went home. Five days after tetanus came on. Two days after its commencement, she was found in the following state: From one to four spasms occurred every hour. At two P.M. the worst occurred; and from that time until the turn of the night, they were very frequent and severe. The jaws were tightly locked; opisthotonos was severe, and there was pain and retraction at the epigastrium, returning every twenty or twenty-five minutes, followed by excessively violent paroxysms—three generally succeeding each other within a minute's time. The temporal and masseter muscles were the seat of very great pain. The head was thrown back, and every muscle was in a state of rigid contraction. She answered by signs, and there were severe pains shooting from the sternum to the spine. Swallowing was performed with the greatest difficulty; and twice on that day the very effort produced spasms. The belly was very hard and painful on being pressed; and, when pressed upon, muscular twitchings agitated the entire body. These twitchings were constantly present between the spasms, and the muscles of the entire body were affected during the paroxysms. The muscles of the

head, neck, throat, chest, extremities, hands, and fingers, were painfully contracted. "The eyelids were drawn down tightly over the eyes; the patient could not move them; and when I raised them up, which I found it difficult to do, the eyes were turned up. The countenance was so much distorted that I would not have recognised her as one with whom I was well acquainted." The pulse was wiry and beating 130. There was suppression of urine for twenty-four hours. No account appears of the treatment during the first two days; on the third a blister was applied from the temple of one side to the chin, the dressing being of mercurial ointment and muriate of morphia: bags of ice were applied to the whole tract of the spine; and a grain of muriate of morphia was ordered every hour, which was continued till stertorous breathing was induced. There was no remission in the early part of the night, but about four in the morning she fell into a quiet sleep, and awoke greatly relieved. During the next twenty-four hours she had in all eleven spasms, six of these being during two visits of the medical attendant. In the course of the fifth day, she had only three slight spasms, and these occurred at one visit, and in the evening of the same day the jaw became relaxed and moveable. On the seventh and eighth day, there were one or two slight spasms, and none afterwards. On the fourth day, she vomited some dark green matter, and the vomiting was followed by some of the spasms already reckoned up. She did not speak or open her eyes till the evening of the sixth day, but, though the eyes were opened, she could not distinguish light from darkness till the evening of the seventh day, and the eyesight was not completely restored till the thirteenth day, the recovery of sight being preceded by an evacuation of blood and mucus from the bowels, and the stoppage of the menses, which had ceased at a regular period two days before the tooth was broken, and had recurred on the seventh day. Besides the symptoms already noticed, she said she had felt a tingling sensation passing up from the extremities, and suffered pain shooting from the sternum to the spine, and she described this pain as having been terrible till the ice was applied; as late as the seventh day she complained of pain in the temporal and masseter muscles; and on the same day she spoke of numbness of the tongue, saying that it felt very much swollen in the beginning of the disease, and that she knew the spasms to be approaching as the numbness began at the root and extended to the point, and then the spasms occurred. On the seventh day, there was an offensive evacuation from the bowels. The application of ice to the spine was continued till the evening of the fourth day, or for twelve hours after the first relief was observed. On the fifth day, a blister was applied to the spine on account of pains. The use of muriate of morphia was renewed as occasion seemed to require; and the bowels were kept free by means of purgatives and enemata; the only other remedy employed was nitric ether, when the morphia began to disagree. Wine was given freely from the evening of the fourth day. About the eleventh day, there was some

threatening of a relapse, which was easily arrested.—Abridged from the *Philadelphia Medical Examiner, and Dublin Medical Press*, July 22nd 1846.

In our abridgment of the above case, we have omitted, we think, no material circumstance. We consider it one of much interest. Yet we cannot agree with Dr. M'Girr, that it is an unequivocal case of traumatic tetanus. We think it bears indisputable marks of being a case of mimosis, or one of that form of hysteria which puts on the aspect of tetanus. It is beyond question that the tonic spasm in hysteria may be just as complete and severe to appearance as in true tetanus, with this difference, that the spurious tetanus is not known to prove fatal, as so commonly happens in the other, especially when the result of an injury; and it is equally certain, that one fertile source of the reputation of many insufficient remedies proposed for tetanus, has been the confounding of the spurious with the true disease. It is a mistake, however, which, we confess, it is not easy to avoid; nor can any one be blamed for treating such a case as if it were true tetanus, since there are no sufficient means of diagnosis;—nay, we should rather say that it is the duty of the medical attendant to treat every such doubtful case as if it were a case of true tetanus. But it is also his duty, when the result and whole history of ihe case are before him, to guard against imposing on himself and his brethren, by ascribing to some before unproved remedy the cure which was owing to little more than the spontaneous efforts of nature. We cannot, therefore, subscribe to our author's faith in the efficacy of ice to the spine in true tetanus, though it may have shortened the severity of the symptoms in the spurious case.

As regards conclusions to be drawn from the results of treatment, it is to be remembered that the tonic spasm occurring in a female without the application of a cause of acknowledged potency, is, "*prima facie*," doubtfully a case of true tetanus; and as respects the case before us, there are certain symptoms which, to our minds, converts this doubt into a certainty of its spurious nature. In the first place, the breaking of the tooth took place when the patient, who is described as young and plethoric, had hardly recovered from the menstrual state; again, menstruation recurred before the attack subsided, and complete freedom from the symptoms was not obtained till the menstruation ceased; and it should, perhaps, be added, that for a short time after this cessation, there was a slight tendency to a relapse of the disease. Our author says, "The loss of sight was something that I had never read of as occurring in this disease." Yet if it had been suggested to him that the disease was nothing else but hysteria, we feel certain that he would not have been able to make that observation; temporary blindness, indeed, seems to be a not uncommon accompaniment of hysteric trismus. Though we feel convinced, that not only this case, but that many of the cases of the tonic spasm reported to have been cured by the outward application of cold, as by immersion in water, were really

cases of spurious tetanus,—yet we should be far from dissuading any one from giving a fair trial to the bags of ice when an opportunity offers.

Monthly Journal of Medical Science, Sept. 1846, *p.* 221.

13.—*Traumatic Tetanus, Recovery.*—By T. M. Greenhow, Esq.' Newcastle.—[Any case of this generally fatal disease *successfully* treated desires a special record.

It was taken to the Newcastle Infirmary under T. M. Greenhow, Esq., and is reported by Mr. C. J. Gibb.

In the earlier stage, calomel and opium carried to ptyalism nearly removed the symptoms; not so however in the more advanced stage, and from the success which frequently results from the use of opium and tartarised antimony, a trial was made, which produced a most tranquillizing effect, causing sleep, the relief of spasms, and the general soothing of the system.

The patient first felt his jaw stiff on the 10th, and a drop of croton oil was given.

13th. The jaw could only be opened so as to allow the tongue, to be seen, and he could not masticate; twitching pains of the neck and at the epigastrium, on coughing, or a deep inspiration.

19th. Jaw more locked, opisthotonos, and occasional spasms of the neck and back: gums tender from the calomel given.

23rd. Much improved; Head quite free, and jaw opens more easily.]

26th. Much worse; jaw can scarcely be opened at all; swallows after many attempts, with great difficulty; breathing much oppressed by frequent spasms, which threaten suffocation and cause extreme pain; head and back permanently arched; was resting on the occiput and heels during the night; bowels free; urine again covered by an oily pellicle, on standing a short time. To take half a grain of tartarized antimony, with one of opium, and three of calomel, every three hours, having a double dose every night, and an enema in the morning.

27th. Exceedingly ill; frequent opisthotonos and paroxysms of dyspnœa, threatening suffocation; great pain at epigastrium; unable to swallow occasionally; abdomen like a board; bowels confined; mouth continues sore; pulse near 100. To continue and have purging enemata.

29th. Easier; opisthotonos greatly gone, and spasmodic attacks of dyspnœa only slight; swallows pretty well; jaw almost closed; bowels free; urine copious, clear, and devoid of the pellicle; motions dark and offensive.

31st. Doing exceedingly well; almost free from spasms and pain; swallows well; mouth very sore; urine loaded with phosphates. To go on with the powder without the calomel.

June 4th. Able to protrude the tongue fully; no spasms nor pain; and indeed very little complaint. The union of the fractures is greatly dissolved, and the bones are rather bent from the violent

muscular spasms. To take the powders night and morning, have good diet, and a dose of castor oil when necessary.

8th. Walking about the wards; jaw a little stiff and cramped in its movements yet, and the abdomen rather hard, but no other complaints; urine continues to throw down vast quantities of phosphates.

15th. All tetanic symptoms gone; feels pretty strong, and arms are becoming firm.

25th. Dismissed cured.

Provincial Medical and Surgical Journal, Sept. 2, 1846, p 416.

14.—*Electro-Magnetic Currents in the Treatment of Paralysis.*—By Dr. Golding Bird, F.R.S., &c.—We are indebted to the researches of our illustrious countryman, Dr. Faraday, for almost every fact connected with the science of induced electricity. It is now well known, that when an electric current of weak tension traverses a wire, it disturbs the equilibrium of the electric matter naturally existing in any conducting body held parallel to it. A momentary current of induced electricity of high tension is thus developed in the body, but no further phenomena are developed until the primary current ceases to traverse the wire. At the instant this stops, the electric equilibrium is restored in the conducting body, this being also accompanied by a momentary current of high tension. These two induced currents move in opposite directions, and may be detected by their producing the phenomena of light and heat, as well as chemical and physiological effects. Now, it is also known, that whenever an electric current traverses a conductor placed at right angles to the long axis of a bar of soft iron, it induces in the latter, magnetic phenomena of high power, which vanish the instant the electric current ceases to traverse the conductor. A train of reasoning flowing from this fact, has led to the belief, that in all permanent magnets, the physical phenomena of polarity, attraction, &c., are owing to myriads of molecular electric currents traversing the bar of metal in a direction at right angles to its long axis. Electricity thus inducing magnetism, in accordance with the well-known law of "action and reaction being equal and contrary," magnetism will induce electricity whenever a magnetic bar is moved across a conducting body. On these facts is based the construction of all varieties of electro-magnetic machines, and we are thus enabled, without trouble, to excite at pleasure currents of electricity of high tension, infinitely more potent than could be obtained by the use of the large and cumbrous galvanic batteries, at a great expense of money and time, as well as comfort, from the noxious gases evolved during their excitation.

[Dr. Golding Bird was the first to describe an instrument in the *Philosophical Magazine*, of self-moving power in order to make and rapidly break the battery contact—a very ingenious and decidedly the best, has been constructed by a well-known philosophical

instrument maker.* It consists of a vibrating bar of brass, contact being made and broken with platina points. Dr. Bird describes the diseases of the nervous system in which this agent has been made use of by him, and arranges the varieties of paralysis thus:]

1. *Cases of partial paralysis, resulting from congestion or other cerebral mischief, admitting of successful treatment. The congestion or effusion is removed, but a more or less palsied state of some part of the body remains.*—Cases of this kind are common enough; and although the paralysis in general slowly disappears with the cause of the cerebral disorder, still the axiom of "sublata causa, tollitus effectus," does not always apply. Every now and then, although the blow has ceased, the bruise (if the expression be permitted) remains. Time, friction, change of air, restoration of the general health, strychnia, &c., will, after all, succeed; but when with improved general health, the stimulus of the electro-magnetic current be employed, success is much more general and certain. All that is required here, is to apply one of the conductors, covered with wet linen, over the trunk of the largest nerve of the part affected, and to pass the other, similarly covered with linen, over the region of the palsied muscle, so as to keep them actively contracting for some minutes. In recent cases, a single application will often succeed; in more chronic ones, the remedy may be continued for weeks, until the paralysis disappears. One of the first cases in which I used this remedy occurred, about nine years ago, in a gentleman holding a prominent position at the bar. I saw him with Mr. Freeman, of Spring Gardens, under whose care he was. This gentleman had palsy of the left side of the face, the relic of an hemiplegic attack following cerebral congestion, the result of intense study and anxiety. His cerebral disease had been cured, his general health restored, but the paralysed nerves of the face alone refused to resume their functions. The electro-magnetic current was applied daily, the patient's footman being the "medical electrician," and in a few weeks he quite recovered.

2. *Paralysis of muscles supplied by the portio dura, following exposure to cold.*—This form of local paralysis, independent of cerebral mischief, generally yields readily to treatment. Cases, however, occur, in which the nerve remains inactive, and the patient walks about for a long time with a distorted face. The electro-magnetic current is here of great value. I have seen many cases of this kind: one to which I was recently called resulted from exposure of the left cheek of a lady for some hours to a current of air from a broken window. She recovered readily from the accompanying bronchitis, but was left with her features distorted, being drawn to the right side. I at once suggested the current from the apparatus; her maid-servant was the operator, and cured her mistress in a week.

* Mr. Neeves, working philosophical instrument maker, Broad-street, St. Giles's.

3. *Local paralysis involving the whole or part of a limb from exposure to cold.*—This variety resembles the last, and is probably of a rheumatic character; although, it must be confessed, it is often a difficult task to define the line separating rheumatic from some paralytic affections. The following is one of many I have seen:—The actuary of one of the large assurance offices consulted me, with nearly complete paralysis of motion of the left arm, sensation being pretty perfect; no pain whatever in moving the limb. During a cold winter, he had been in the habit of sitting at his desk, with the right side of his body roasting by a large fire, whilst the left was chilled by blasts of cold air from a frequently-opened door. Gradually, pain and stiffness appeared in the left arm, but no swelling. The pain gradually vanished, and the limb was left palsied. Other remedies proving useless, the electro-magnetic current was applied. I ordered a conductor to be placed over the lower cervical spinal region, to influence 'the origin of the axillary plexus, the other being passed down the arm. After a few weeks, he quite recovered. This gentleman was his own operator: he fastened the spinal conductor in its place by his neckcloth, and thus had the right hand at liberty to apply the other.

4. *Paralysis affecting one side of the body, or a single limb, the result of exhaustion.*—These cases are not unfrequent, and before their nature was understood, they used to be fearfully mismanaged, the paralysis being looked to, rather than the cause producing it, and depletion and mercury employed when nutritious food and stimulants were really indicated. It often happens that these cases are directly traceable to an obvious cause, and then the diagnosis becomes easy. The insidious exhaustion and enervation produced by excessive lactation is a not unfrequent cause. I saw a well-marked case of this kind, five or six years ago, in a patient under the care of a most excellent and talented practitioner, Mr. Pretty, now residing in Mornington-road. This lady, a person of weak frame and strumous diathesis, had become exhausted by nursing her third infant, and the left arm became gradually palsied as far as motion was concerned. A generous diet, weaning the child, and the electro-magnetic current, were ordered. I had lost sight of this lady until a few days ago, when I was called to see her sinking from phthisis. I then learnt that, under the treatment suggested, the paralysis had soon disappeared.

Paralysis, from enervation, has occasionally followed sudden loss of blood at flooding labours. I have witnessed complete hemiplegia as the result. A case of this kind I once saw with my friend, Mr. Law, of Finsbury, who had most properly treated the poor lady with generous diet and iron, under which she did well. When under this treatment, in spite of the restoration of the general health, paralysis remains, the electro-magnetic stimulus promises, from what I have seen, to be of much service.

5. *Cases of rheumatic paraplegia.*—To this category I refer cases of rheumatism, affecting chiefly the lower extremities, the pain and acute action disappearing, while more or less complete paraplegia remains. In these cases, I have seen the greatest benefit result from electro-magnetism, as well as from ordinary electricity. I have witnessed so many of these cases thus treated do well, that I can speak with great confidence of its influence. One case will suffice as an example. A man came last summer into Luke's ward, at Guy's, under my care, with complete paralysis of motion of the lower extremities. He was totally unable to move his feet or knees, and was carried into the ward. This state of things had followed the dashing of ice-cold water on his legs and thighs, whilst sweating profusely. But little medicine was ordered for this man, and in less than three weeks, he, under the use of electro-magnetism, walked about the ward, aided by one crutch and his stick. In these cases, one conductor should be firmly pressed against the sacrum, whilst the other is placed in a basin of salt-and-water, in which the feet are immersed.

6. *Paraplegia the result of enervation?*—I am not quite sure of the pathological correctness of the title I have thus assumed. By it, however, I understand a series of cases in which paraplegia, both of motion and sensation, results from excessive fatigue, from sitting for weeks and months together, during the greater part of twenty-four hours, with the spine somewhat bent. I knew of one case in which a distinguished physician actually became thus palsied, after assiduously devoting his time to the study of certain phenomena by the microscope, in doing which, he, for hours together, used to lean over the instrument. There is, however, another cause, unhappily too rife, of these cases, the miserable result of the utilitarian dogma which makes human labour a marketable commodity, without any regard to the conservation of health. I may perhaps startle some by announcing the fact, that I have, in several instances, seen more or less complete paraplegia among a class of labourers of the most oppressed and most unprotected character. I refer to the needle-women of the metropolis—a class of girls and women, who, to earn enough of the wretched pittance they receive from the agents who employ them, to procure the commonest necessaries of life, are often compelled to work for fourteen, sixteen, eighteen hours, or even sometimes longer in the twenty-four hours. They toil on, indeed, at the needle, until the sight fails as they drop asleep; waking, after snatching a short slumber, to resume their work. These poor creatures receive from three-halfpence to four-pence halfpenny for making a shirt, (for the latter price producing such as is worn by respectable mechanics and others.) They are unable to procure proper food, and are often driven to intemperance to forget their miseries, or to prostitution, to add to their wretched income. No wonder that they become exhausted, enervated, bloodless; and paraplegia is not unfrequently the result. I had under my care, in the hospital, this last summer,

a young woman, who had once moved in a respectable sphere. She was quite paraplegic. She had been exhausted by working in the way I have described, and declared to me, that excepting dozing in her chair, she had often not slept for two nights together. She first felt vague pains in the toes, then in the knees; rigidity came on; and ultimately she became as I saw her, the lower half of her body being as powerless as if made of marble.

In many of these cases no organic lesion exists; and by due nourishment, rest in the recumbent position, iron or zinc, and the subsequent application of the electro-magnetic stimulus, recovery generally takes place. These cases are little known, and will continue (we must fear) to occur, so long as the labour of the friendless and dependent female is regarded with no more feelings of sympathy or humanity than the amount of duty performed by a steam-engine or any other machine.

In thus advocating the electro-magnetic current as an important and most valuable excitant of paralyzed muscles, I must still acknowledge that it is anything but a universally-successful remedy. In the great majority of forms of palsy above described, it is indubitably, in some, the actual curative agent; in all, it expedites and aids the cure; in none is it injurious. As a general rule, I think it will be found *cæteris paribus* to act most effectually in proportion to the acuteness of the case. In chronic paralysis, we must recollect that any new tissue deposited during, perhaps, many months, or longer, although organised like the healthy structure, and provided with its due supply of nerves, is still composed of fibres which have never obeyed the influence of the will—have never moved at the volition of the patient. This I believe to be the reason of our not at once rousing a long-paralyzed muscle into action. We can here only expect to succeed by submitting the paralyzed part for a long period to the influence of the remedy. I cannot conclude without urging upon the profession the impropriety and mischief of using electricity in some cases merely because paralysis exists. In true spinal paralysis depending upon organic lesion, the electro-magnetic current often does mischief, especially where there is subacute inflammation, or a highly-irritable state of the spinal marrow—a state of things shown, among other symptoms, by the involuntary and unconscious starting of the legs. In all such cases, the remedy does no good, and in some it does great harm, the effect of its local irritation, when applied to the legs, appearing to be reflected to the spine, and greatly increasing the patient's sufferings.

Lancet, June 13, 1846, *p.* 649.

15.—*Anæsthesia treated by Electro-Magnetism.*—By J. C. Christophers, Esq., London.—[This patient had been labouring under a slight leucorrhœal discharge, for which she had been directed to use a cold hip bath every morning. Every time she left the bath there was a loss of feeling in the skin, which gradually subsided in about half an hour; after the twelfth bath, however, it became perma-

nent. She was in good health when Mr. C. was called to her, and had taken a walk that day; she had no feeling from her toes upwards as far as the water had extended; she complained of not being able fully to evacuate the rectum, and of the urine slowly dribbling away. The temperature of the parts was below that of the rest of the body; numerous remedies were resorted to without benefit, when the application of electro-galvanism was resolved upon. Mr. C. observes:]

An improvement was observed after the second application. The rectum and bladder were the first to regain their normal condition, the thighs and legs next, the feet and abdomen last. It was interesting to note, during the progress of cure, that on those days when the wind was in the east, and the atmosphere cold, the legs and feet were always worse if the patient left her warm drawing-room and went abroad—a circumstance pointing to the cause of the malady.

Electro-magnetism was used on twenty-two occasions, from an hour and a half to two hours at each sitting. It was most interesting to watch the gradual return of sensation under its influence. The method I adopted was—first to pass a current down the whole spine for half an hour; then from each side of the sacrum to each foot for half an hour; then from the spine to the abdomen for the same period. At the end of the twenty-two days the patient was quite restored; no trace of the malady remained.

Lancet, Aug. 8, 1846, *p.* 144.

16.—*Brucine in Obstinate Paralysis.*—Brucine is substituted by M. Bricheteau for strychnine, in the treatment of obstinate paralysis remaining after an attack of apoplexy, with equally good effect, and with the additional advantage over strychnine of the being able to employ it in larger doses without danger of fatal accidents. A man was received into hospital with hemiplegia of the left side, sensible alteration of the intellectual faculties, and almost complete deafness, the sequelæ of a former attack of apoplexy. On the day of his admission he was treated by brucine in the dose of a centigramme, and infusion of arnica was prescribed for drink. The first day the patient perceived nothing particular; the next day he took two centigrammes, increasing the quantity by one centigramme daily, until the effect of the medicine became evident. When carried to the dose of ten centigrammes, the following effects were perceived:—One hour after taking the brucine pills, the patient experienced a general heat, and particularly in the thighs and hams; this heat was attended by a general susceptibility. To these first symptoms succeeded regular convulsions, returning at intervals, and causing strong muscular contractions; at the same time there was redness of the face and headache, the patient nevertheless preserving his reason. The convulsions lasted about an hour, but there was no trismus; they were followed by lassitude in all the limbs, and an irresistible desire to sleep. This patient took the

brucine for three months and a half or nearly four months, at the end of which time he was able to walk without support.—*Gazette Médicale de Paris.*

Provincial Medical and Surgical Journal, July 22, 1846, *p.* 341.

17.—*Paralysis of the Hands from the Use of Crutches.*—A woman has been admitted into the Hotel Dieu, under the care of M. Guerard, with paralysis of both fore-arms and of the fingers of both hands, resulting apparently from pressure on the axillary nerves by the use of crutches for fourteen days. The paralysis began by a feeling of numbness. There was complete loss of sensation and of the power of motion in the affected parts, on admission; but by rest and the employment of blisters and strychnia for a few days, the fingers had regained a certain amount of their power. The case is still under treatment.—*Gaz. des Hopitaux.*

Medical Gazette, June 26, 1846, *p.* 1125.

18. — *Case of Sciatica treated with Moxas.* — By Dr. A. T. Thomson.—[The patient, a female, forty-eight years of age, was an inmate of University College Hospital, admitted April 23, 1846. A month before admission she was seized with pain in the back, right shoulder, and the left hip and groin; there was no accompanying fever. A week ago, having got wet, the pain became much worse, and of a paroxysmal character; the pain at the time of her admission was much more severe during the night; her general health pretty good, no pain along the course of the sciatic nerve nor spine. She was ordered a mixture containing tincture of guaiacum and tincture of aconite.

On the 2nd of May the pain was still severe; the dose of guaiacum to be increased. On the 11th, directed a long aconite plaister to be placed over the seat of pain: this was followed next day with improvement in every respect. On the 14th the pain returned as severe as ever, but was not worse at nights; she was cupped over the seat of pain, and two grains of calomel and one grain of opium were given after the operation; she was ordered a mixture containing vin. colchicum and tincture of aconite. On the 19th, the pain again returned in the course of the sciatic nerve: six moxas were applied to the part, and the medicine continued. On the 21st she was reported as much improved, and since then the reports are all favourable.]

Dr. Thomson observed, that the nature of sciatica was not yet fully agreed upon, although it had been long agitated by different authors. Is it rheumatism? Dr. Barlow (a very good authority) and other writers regard it as having a greater affinity to neuralgia than to rheumatism. If we argued from the case before us, and others of a similar kind, the pains in the shoulder, the back, &c., would induce us to class it with rheumatism. In general, the pain was preceded by constitutional fever; and in sciatica this was very

often the case, although the previous fever was frequently overlooked. Rheumatism most commonly attaeks muscular and membranous parts, and in sciatica the inflammation is most probably seated in the theca of the nerve, not in the nerve itself. Again, the patient had suffered several times from rheumatism, and there evidently existed a predisposition to the disease. In seiatica the local inflammation is less likely to move, or, as the term is, undergo metastasis; and the febrile symptoms are neeessarily less obvious than in general acute rheumatism.

A question here presented itself. if we maintain the rheumatie character of sciatica, what are the causes of rheumatie inflammation? In reply, we should say, cold and damp, eurrents of air when the body is warm, &e. But if two persons were exposed to the same exciting eauses, and one only got rheumatism whilst the other got pleurisy, there must have been some predisposing state which leads to the setting up of rheumatic inflamuation. This is stated to be plethora; but when that is the case, pneumonia, or pleurisy, or other inflammations, are more likely to oceur than rheumatism, and still more than seiatica. Dr. Thomson was therefore of opinion that when rheumatism makes its attack there is not merely plethora, but a high suseeptibility of the nervous system. Hence the inflammation, whatever tissue it affeets, is aeeompanied by aeute pain.

Leaving theory, let us look to the influenee and propriety of the treatment in this case, in reference to the disease in other instanees. As the pulse and general symptoms did not indicate febrile excitement, general bleeding and antiphlogistie measures were not deemed necessary; on the contrary, the indications to be fulfilled were—1st. to render the system less sensitive by giving tone; 2nd. to subdue topical inflammation. The first indication was here the more necessary, from the neuralgic charaeter of the pains, and their periodicity: hence guaiacum was ordered as a warm purgative, and also to act on the skin, and afterwards the disulphate of quinine. The aconite plaister appeared to relieve the pain for a short time, but since it soon returned with increased tenderness, and the small pulse was no indieation that active local inflammation was not present, she was cupped, and as re-action had taken place the tonie was diseontinued, and colchicum substituted; as, however, the pain still continued, the object was to subdue the loeal inflammation either by topical bleeding, sedatives, eounter irritants, or the more powerful influence of moxas. Topical bleedings, with the administration of eolchicum or aconite; blisters dressed with morphia, especially if an eruption appeared, acupuneture needles, counter-irritations, &e., would often relieve temporarily; but if the disease had been of long standing the benefit was seldom permanent. The pain from the application of the moxas was not nearly so severe as was generally supposed; a small number would eause almost as much pain as six or eight, and was not at all to be depended upon. The Chinese, who ehiefly employed this remedy, generally applied six or

eight on either side of the spine, in cases of severe lumbago. Moxas acted by giving an intense local stimulus to the capillaries of the part; but this was not confined to the surface; it extended to the deeper structures, and by equalizing the circulation in the theca, removed the pressure from the nerve. It was, therefore, erroneous to suppose that the benefit was derived from the discharge set up, for this was very small, and, indeed, the improvement was generally most marked long before the sloughs had separated. Dr. Thomson considered that this remedy was too much neglected by British practitioners; he had used it in numerous instances, and generally found the cure effected permanently.

The best moxas are prepared by dipping a piece of bibulous paper in a solution of diacetate of lead, drying it, and rolling it up in the form of a cylinder. It burns well and steadily, leaving an ash of yellow oxide of lead.

Medical Gazette, July 17, 1846, *p.* 126.

19.—*Endermic Application of Morphia in Neuralgic Pains.*—By Dr. White, of Newcastle.—(Reported by Mr. Charles J. Gibb.)—[The first of these cases, treated by Dr. White, was a tall stout keelman, 57 years of age. He had a severe aching pain in the left hip and posterior part of the thigh; the pain was aggravated at night, assuming a lancinating character, darting down to the foot; there was no fever; bowels regular. He was ordered]

To have three grains each of blue pill, aloes, and acetous extract of colchicum, with five grains of Dover's powder, every night: five grains of the iodide of potassium thrice a day, and a small blister to the most painful part of buttock, after which the abraded skin to be sprinkled over with a grain of the acetate of morphia every morning.

[In 18 days this patient was dismissed cured.

The next case is that of a joiner, 56 years of age. He complained of stinging pains, proceeding from the right buttock down the leg to the foot; the pain was easier during the night; general health good, urine healthy, bowels regular, no thirst. He had a similar attack nine years ago, and was cured in the same hospital. He was ordered two grains of blue pill and four of aloes every night, and the mixture and volatile tinct. of guaiacum thrice a-day, and a small blister to the hip, dressed every morning with a grain of morphia. In a month's time he was discharged cured.

In another case, occurring in Dr. White's hospital practice, the patient laboured under severe aching pain and soreness of the whole skull, not affected by outward circumstances. He had a blister applied to each temple, and the abraded surface sprinkled over with half a grain of morphia every morning; in a week's time the pain was entirely gone.]

This mode of treating those pains which appear to depend principally upon nervous irritation, or, it may be, chronic inflamma-

tion, and are confined in their extent, has been extensively employed here, and in no cases has it been attended with any disagreeable effect; but, on the contrary, with the most surprising benefit in many, or, I might say, in most of those patients, who, from their condition, seemed to be suitable for its application. The pain is generally soon relieved, and a comfortable feeling of ease, with sometimes a little drowsiness, is experienced. In fact, in sciatica, or, indeed, in any case where the pain can be distinctly traced along the nerve, this plan is often the only one that affords even partial relief. The application must be used as near the trunk of the nerve as possible, particularly when the pain most nearly centralizes. It sometimes requires to be reapplied nearer and nearer the terminating branches, as the pain is gradually expelled. Hence, in sciatica, the buttock first, then the knee, and, lastly, the foot, sometimes in succession, require the vesication, and subsequent sprinkling on of the morphia. It is quite certain that this treatment has entirely succeeded when leeches, blisters, moxas, belladonna externally, and arsenic, iron, iodine, turpentine, and guaiacum, have entirely failed. Dr. White has had frequent opportunities of testing its power over pains situated about the upper parts of the body, and does not consider that the locality, as regards the contiguity of any of the most sensitive organs, or, indeed, of the sensorium itself, has much, or any, influence in heightening the constitutional effects of the drug, but he does, nevertheless, watch it then with great care, and uses the application, in such cases, with somewhat less freedom than when, by its narcotic touch, he endeavours to dispel a sciatic pain. The secretions and states of the different viscera are, of course, during its use, to be carefully examined and increased, or corrected when faulty. To Dr. Greenhow, of North Shields, I believe, the merit is due of first applying morphia endermically over the region of the stomach for pains in that viscus.

Lancet, June 20, 1846, *p.* 673.

20.—*Coffee as a Remedy for Neuralgia.*—It is stated that a female under the care M. Piorry, had, after parturition, being attacked with a neuralgic affection of the frontal branch of the fifth pair of nerves, which after resisting a number of the ordinary remedies, yielded completely to a continued use for many days of a very concentrated decoction of coffee.

Another case also is mentioned in which the success of this remedy was generally marked. A woman affected with the same form of neuralgia, which had been unavailingly treated with the valerianate of zinc and quinine, became cured by combining the use of strong coffee with the above remedies. The therapeutic effects of this drug were well marked in her: a draught of a very strong decoction of it at the commencement of a paroxysm of pain being quite sufficient to prevent its continuance.—*Gazette des Hopitaux.*

Medical Gazette, June 5, 1846, *p.* 1016.

21.—*On the Treatment of Chorea.*—By Dr. Bellingham, Dublin. —[Remedies quite opposite in their nature have enjoyed a curative reputation in the treatment of chorea, but perhaps a good deal should be ascribed to the vis medicatrix in these cases, as the disease after existing for a time, has a tendency gradually to subside.

Purgatives, as *curative* of chorea, are now abandoned, although they are occasionally used with marked benefit, by removing morbid secretions or fœcal accumulations.

The remedies now considered curative of chorea belong to the class of tonics, and those derived from the mineral kingdom, as iron. Dr. Bellingham has given oxide of zinc, and he speaks very favourably of it; he says.]

I was induced to try this medicine in chorea, partly because I had occasionally found the preparations of iron to disagree, (occasioning head-ache. hot skin, foul tongue, and constipation,) and partly because the oxide of zinc formerly had some repute as a tonic in this and some other diseases, though of late years it had almost completely fallen into disuse, having been superseded by newer or more fashionable remedies. The largest dose of the oxide of zinc which I have found necessary is twelve grains; in general, smaller doses were employed. In a few cases it occasioned nausea or pain referred to the epigastric region; it was then given in combination with an aromatic; more frequently it acted as a purgative, and it was found necessary to combine it with an astringent, as prepared chalk, &c.: the latter effect is not generally supposed to be produced by the oxide of zinc, but I have witnessed it on many occasions; in some cases indeed the intermission of the medicine for a few days was necessary.

[Dr. Bellingham found the shower-bath and change of residence of decided advantage in the treatment of these cases; he treated a very severe case, at first, with carbonate of iron, and afterwards, with oxide of zinc. The patient could neither sit, stand, nor speak; the upper and lower extremities, on both sides, were in constant motion; these motions were diminished, but did not cease during sleep: the bowels were cleared out, and a leech applied to the nostrils, and the following treatment was adopted.]

℞. Sub. carb. ferri sacch. Bicarbonatis ℈ss sodæ āā. grana duo. Pulveris aromat. granum. Ft. pulvis ter in die sumendus.

8th. Involuntary motions continue uninterruptedly during the day, but subside when asleep; sleeps well now.

A tepid shower-bath daily, to be gradually used cold.

20th. The medicine began to disagree with the patient, and was consequently discontinued.

℞. Oxidi zinci. Sacchari albi āā. grana iij. Ft. pulvis ter in die sumendus.

Soon afterwards the dose was increased to five grains three times a day; it produced no effect upon the bowels; the little patient was

soon able to sit up, then to stand and to speak, while the involuntary motions diminished considerably.

February 12th. The patient is now able to walk and speak; the countenance is cheerful and healthy-looking; the motions in the arms are slight, and she can hold objects in her hands. The medicine produces no sensible effect.

26th. She left the hospital this day perfectly well, having continued to take the medicine regularly; she had grown strong and looked healthy.

Dublin Medical Press, July 29, 1846, *p.* 66.

22.—*Case of Hysteria.*—By Dr. Todd.—At a meeting of the South London Medical Society, in April last, Dr. Todd related the following case of hysteria. A young woman 22 years of age, was admitted into hospital; she had hectic flush and a decidedly hysterical appearance; catamenia appeared at 17, but did not recur for 18 months; she had been accustomed two years previously to vicarious periodical discharges of blood from the stomach; also this occurred between the first and second catamenial flow. The catamenia appeared a third time, when hooping cough came, which confined her to bed for 15 weeks, during which time there was no return of the menstrual discharge, and when this did occur, it was at long intervals and scanty. Five months before admission, she was suddenly seized with spasms about the neck of the bladder, and swelling of the pudenda, with retention of urine. On admission, her respiration varied from 90 to 120 in a minute, and the pulse 100 to 120; after every twentieth respiration a slight pause ensued. During sleep, the respiration fell to 18, and the pulse to 60, and immediately on awaking the pulse rose to 80, and the respiration to 80, gradually increasing; she never suffered from dyspnœa. At first, relief was afforded by evacuating the large intestines, by means of turpentine and assafœtida; she passed her urine voluntarily two days after this. The cold dash was used, and the use of the catheter prohibited. She had tonics, good diet, and purgatives. At one of her catamenial periods the breathing rose, aphonia took place, there was spasm of the eyelids, and other hysterical symptoms; but when the flow came on she was soon relieved, and gradually improved. On this case,]

The author remarked, first, on the remarkable cessation of the quick breathing during sleep; a fact identical with what takes place in chorea, in which the convulsive movements are instantly relaxed when sleep takes possession of the brain.

2ndly. On the value of an invigorating and tonic plan of treatment; as in all these cases the secretions are deficient or faulty, especially the uterine and digestive. He also dwelt especially on the necessity of attending to the habits of the patient, and trusted more to a system of discipline than one of mere drugs. Valerian, ammonia, assafætida, and turpentine—all of which tend to a similar object—namely, stimulation of the nervous system, were those

alone in which he had any confidence: and, after the severe stage of the disease, quinine, iron, zinc, or the vegetable tonics, especially the chirayita, were of benefit; all, however, were insignificant when compared with moral and physical discipline, the shower-bath, cold dash, good diet, and exercise.

He was opposed to general or local bleeding, being of opinion that the local pains so frequently occurring in hysterical persons, although benefitted for a time by a few leeches, speedily return, and in an aggravated character. Purging or moderate sweating, which might eliminate morbid matters from the circulation, were valuable adjuncts to the treatment, when kept within due bounds.

[Mr. Hilton remarked on the excitement of the respiration. and then adverted to the exhibition of stimulants during this excited state. Dr. Todd]

Did not consider it an excited state of the system in the strict sense of the word; for, although the respiration was quick, there was no abnormal condition of the respiratory functions, or of the nervous centres which supplied them: his views being, that, on a post mortem examination, no lesion of structure would have been discoverable, and the symptoms were induced by an unnatural nutrition of the nervous centres from a deteriorated condition of the blood; it did not consist in an exaltation, being only an acceleration of action, with a diminution of power, and want of due regulation (as instanced in delirium), and was better treated by stimulating than depressing remedies.

[Dr. Lever observed that, when other remedies failed, the turpentine enema and the topical application of cold water, would often succeed in producing voluntary evacuation of the bladder.

Dr. Munk bore testimony to the efficacy of pil. galvan. co.; when the large intestines were disordered, as shown by pain in the left side.

Dr. Lever said valerian was so often of bad quality, it could not be depended upon; the valerianate of zinc was very serviceable.]

Medical Gazette, May 15, 1846, *p.* 869.

23.—*The Shape of the external Ear in relation to Mental Disease.* —[Dr. Conolly makes the following very interesting remarks on this :ubject:]

M. Foville has made curious, and, I believe, original observations on the shape of the ear in different forms of insanity, and has noticed an analogy or resemblance between the development of different portions of this organ and the brain of the patient. Of these views he was so obliging as to give me some explanation, illustrated by an extemporaneous diagram, and afterwards by corroborative examples. In some of the cases of dementia, or of the lowest degree of intelligence, the flatness and defective form of the helix, anti-helix, and tragus, and the disproportionate enlargement and

pendulosity of the lobe of the ear, and rounded clumsy shape of the outer edge of the auricle, were very striking. Subsequent observations have led me to believe these views to be exact as well as curious; and they exemplify the abundance of external evidence available to the physician in relation to internal disorder.

In support of the view here proposed, he relates the following anecdote:—

Not very long ago, M. Foville was called upon by an intelligent and philanthropic person, who appeared to take much interest in the management of lunatic asylums; and he was greatly struck with a conformation of ears in this gentleman which he had never previously observed, except in cases of mental irregularity or disorder. I happen myself to know that the individual who was the subject of this observation has had several attacks of insanity, and although now at large, and exhibiting considerable mental activity, has repeatedly been in confinement; circumstances of which M. Foville had no knowledge when he remarked what seemed to him to be an anomalous peculiarity.—*British and Foreign Review.*

Lancet, May 30, 1846, *p.* 605.

24.—*Injurious Influence of Tobacco in Insanity.*—By Dr. Woodward.—[Dr. Woodward's experience is quite at variance with that of the physicians to our asylums. It must be questioned, however, whether depriving some patients of the enjoyment of this luxury may not lead to a good deal of irritation, and thus aggravate the disease. Dr. W. observes,]

Alcohol is not the only narcotic which thus affects the brain and nervous system. Opium produces delirium tremens, and probably insanity. Tobacco is a powerful narcotic agent, and its use is very deleterious to the nervous system, producing tremors, vertigo, faintness, palpitation of the heart, and other serious diseases. That tobacco certainly produces insanity I am not able positively to observe; but that it produces a predisposition to it I am fully confident. Its influence upon the brain and nervous system generally, is hardly less obvious than that of alcohol, and, if excessively used, is equally injurious. The young are particularly susceptible to the influence of these narcotics. If a young man becomes intemperate before he is twenty years of age, he rarely lives to thirty. If a young man uses tobacco while the system is greatly susceptible to its influence, he will not be likely to escape injurious effects, that will be developed sooner or later, and both diminish the enjoyments of life and shorten its period. In our experience in this hospital, tobacco, in all its forms, is injurious to the insane. It increases excitement of the nervous system in many cases, deranges the stomach, and produces vertigo, tremors, and stupor, in others.

Lancet, July 11, 1846, *p.* 49.

25.—*Case of Epilepsy in the Hospital Practice of Dr. White of Newcastle.*—(Reported by Mr. Charles J. Gibb.)—[The patient was a healthy looking seaman, 36 years of age. He had been subject to epileptic fits of an aggravated character, for the last 18 months: there were no premonitory signs of, and total insensibility during the fits, which lasted an indefinite period. He was subjected to a variety of treatment, the disease appearing of a functional character. He had contracted syphilis in his youth but had never suffered from secondary symptoms; some indications, however, coming on, he was ordered iodide of potass 3 grains three times a'day, and the soreness of the mouth, which had previously been induced, to be kept up by blue pill. Under this treatment, the nocturnal pains and epileptic paroxysms disappeared together. Mr. Gibb, who reports this case, makes the following remarks.]

From the history of the affection, it was pretty evident that it arose from some functional disturbance, and not from any permanent organic irritation. He had had piles for a long time, which, having dried up of late, it was considered that that circumstance was the key to the case, and that by withdrawing a little blood at intervals, and increasing the secretions, taking particular care to evacuate the liver, the system would be relieved of the encumbrance which the closing of its drain or safety-valve had detained within it, and thus get quit of those fits which seemed to be the mere symptoms of that condition. This plan, however, failing, and the succeedingones having had as little effect, it was considered expedient, on account of a few secondary syphilitic symptoms having appeared, to commence with the iodide of potassium, upon the supposition that the epilepsy might be but a symptom of the venereal taint; and its curative action, although so very striking, is not greater than that which it commonly exerts over the nodes, (which might possibly have existed within the skull in this case,) and over the excruciating nocturnal pains which form one link in the series of the terrible effects of syphilis.

Lancet, July 25, 1846, *p.* 90.

ORGANS OF CIRCULATION.

26.—OBSERVATIONS ON CASES OF PERMANENTLY SLOW PULSE.

By Dr. Stokes.

[In the fourth volume of the Dublin Hospital Reports, Mr. Adams has recorded a case of permanently slow pulse, in which the patient suffered from repeated cerebral attacks (not followed by paralysis) of an apoplectic character. Dr. Stokes, and the subsequent writers on diseases of the heart, have not sufficiently directed their

attention to this case. He publishes the following cases to elucidate a subject of which there is so little known.]

Case 1.—*Repeated pseudo-apoplectic attacks, not followed by paralysis; slow pulse with valvular murmur.*

Edmund Butler, aged sixty-eight, was admitted into the Meath Hospital, Feb. 9th, 1846. He stated that his health had been robust, until about three years ago, at which time he was suddenly seized with a fainting fit, in which he would have fallen if he had not been supported. This occurred several times during the day, and always left him without any unpleasant effects. Since that time he has never been free from these attacks for any considerable length of time, and has had, at least, fifty such seizures. The fits are very uncertain as to the period of their invasion, and very irregular as to their intensity, some being much milder and of shorter duration than others. They are induced by any circumstance tending to impede or oppress the heart's action, such as sudden exertion, distended stomach, or constipated bowels. There is little warning given of the approaching attack. He feels, he says, a lump first in the stomach, which passes up through the right side of the neck into the head, where it seems to explode and pass away with a loud noise resembling thunder, by which he is stupified. This is often accompanied by a fluttering sensation about the heart. He never was convulsed or frothed at the mouth during the fit, but has occasionally injured his tongue. The duration of the attack is seldom more than four or five minutes, and sometimes less; but during that time he is perfectly insensible. He never suffered unpleasant effects after the fits, nor had anything like paralysis. His last fit occurred about one month before admission. He has never heard it remarked that there was anything peculiar about his heart or pulse. At first he found that spirits was the best restorative or prophylactic, but latterly he has not used them, being "afraid to die with spirits in his belly."

On admission, he was haggard and emaciated, but seemed the wreck of what was once a fine, robust man. He lay generally in a half drowsy state, but when spoken to was perfectly lively and intelligent.

What he sought admission into the hospital for was an injury he had sustained, by a fall, on the left shoulder; this, however, was of no consequence, and he soon recovered under the use of an anoydne liniment.

He makes no complaint of his general health; his appetite is good, and he sleeps well; bowels regular, and, in fact, all the functions are in good order. He has, however, some cough, attended with a slight mucous expectoration. His intellectual powers are perfect. He complains of a feeling of chilliness over the body, and is never warm except when close to the fire. This has long been the case; and he says that each day he gets a periodical chill, generally in the afternoon, which is followed by increased heat of the surface, but without sweating.

On percussion, the chest is universally resonant. The respiratory murmur loud, and combined, more especially posteriorly, with large mucous rales. The impulse of the heart is extremely slow, and of a dull, prolonged, heaving character, giving the idea of feeble as well as of slow action. The first sound is accompanied by a soft *bruit de soufflet*, which is prolonged until the commencement of the second sound, and is heard very distinctly up along the sternum, and even into the carotid arteries. The second sound is also imperfect, though very slightly so; the imperfection being much more evident after some beats than after others. Pulse twenty-eight in the minute, of a prolonged, sluggish character; the arteries pulsate visibly all over the body, but no *bruit* is audible in them. They appear to be in a state of permanent distension; the temporal arteries ramifying under the scalp, just as they are seen in a well-injected subject. All the other cavities and viscera appear to be in a perfectly healthy state. Urine, neither acid nor alkaline; of a light colour, clear; specific gravity 1010; and does not afford a precipitate with nitric acid. He was ordered four ounces of wine, and a liniment for the shoulder.

February 17th. The pulse has varied from twenty-eight to thirty in the minute. The cardiac murmurs continue unchanged; that with the first sound is plainly audible over the upper part of the thorax, but most evident along the course of the aorta.

21st. Pulse thirty. Cough quite gone. Has been complaining of a feeling of the "lump in the stomach" for several days, and was once threatened with the approach of a fit during the night; it passed off, however, without becoming a true attack.

23rd. An œdematous swelling has appeared behind the left ear, extending up the side of the head, slightly tender on pressure; no redness; has had no shiverings; tongue clean; bowels free. Pulse up to 36.

March 3rd. On the 24th of February the œdema had left the left side, and made its appearance on the right, from which it was dispersed on the following day by the application of poultices. The pulse fell to the usual range.

His aspect and general health are greatly improved since his admission. He gets up every day, and is much stronger. The shoulder is almost quite well. The pulse has continued at about 28 or 30. He says he has had two threatenings of fits since his admission, both occurring in bed, *and both warded off by a peculiar manœuvre; as soon as he perceives symptoms of the approaching attack, he directly turns on his hands and knees, keeping his head low, and by this means, he says, he often averts what otherwise would end in an attack.*

[On the readmission of this patient into the hospital three months afterwards, in addition to the other symptoms, there was a remarkable pulsation in the right jugular vein. In the next case, there

was a similar condition of the heart, but no pseudo-apoplectic attacks. Dr. Stokes observes,]

The co-existence of aortic murmur with the symptoms of weakened heart in both these cases is important, for if it should appear that this combination is one of frequent occurrence, we shall have less difficulty in recognising an obscure disease of the heart. There is no reason to believe that there is any necessary connexion between the weakened, or fatty state of the heart, and disease of the aorta or its valves: but that the combination is frequent appears probable from the following considerations:—

First,—In the two cases which have now been given, we see the combination of slow pulse with aortic murmurs.

Secondly,—In one of these, organic disease of the aorta was found on dissection.

Thirdly,—In Mr. Adam's case the aortic valves were studded with specks of bone. The state of the aorta is not noticed; but the carotids and middle arteries of the dura mater presented bony depositions.

Fourthly,—In a case published by Dr. Cheyne, in the second volume of the Dublin Hospital Reports, in which the heart had greatly degenerated into fat, the valves were sound, but the aorta was studded with atheromatous concretions.

Fifthly,—Professor Law, in his original and important observations on the connexion between disease of the heart and brain, in the seventeenth volume of the Dublin Journal of Medical Science, gives an account of the appearances observed in examining the body of the Earl of K., and states that the pulse was remarkably infrequent, sometimes not exceeding twenty-five beats in the minute. The patient was subject to syncope. The examination was made in London, and no mention is made of the state of the muscular substance of the heart; but it was found that the semilunar valves of the aorta were thickened and partially ossified, so that they could not effectually have closed the orifice. The brain was extensively softened, and the ventricles distended with a limpid fluid, and the substance of the left hemisphere, both cortical and medullary, was so softened as to present an almost creamy consistence. The arteries at the base of the brain presented opaque yellow depositions.

This case was, in all probability, an example, if not of fatty degeneration, at least, of a weakened state of the ventricle, It is another example of the combination of a singularly slow pulse, tendency to syncope, and disease of the aortic valve.

[Mr. Adams has communicated a case to Dr. Stokes, in which there was slow pulse with lesion of the aortic orifice and softening of the left ventricle; and Dr. S. observes that he has lately seen another case, in which the pulse was under 30; there were repeated pseudo-apoplectic attacks, and distinct valvular murmur with the first sound of the heart. Dr. Stokes adds,]

The preceding observations go to prove that the combination of the permanently slow pulse with a diseased condition of the aortic opening, is not uncommon. We owe to Dr. Corrigan, the important practical observation, that in cases of permanent patency of the aortic valve, the patients do not generally bear a reducing system, but are best treated by a tonic, or even stimulating regimen; and I entirely agree with Professor Law in his opinion, that the pseudo-apoplectic attacks, in cases of slow pulse and weakened left ventricle, are more frequently attributable to a diminished or feeble circulation, than to one of active congestion.

We have thus seven cases of permanently slow pulse. In five, organic diseases of the aorta or the valves, or both, was discovered on dissection; and in four, a manifest aortic murmur existed: in two of the cases the second sound was normal; and in two there was the murmur of regurgitation in the aortic valve.

I do not believe, however, that the aortic murmur is any direct sign or necessary combination of the weakened heart. Its occurrence in these cases manifestly arises from the combination of aortic disease; and we have abundant evidence that a weakened heart, without aortic disease, may exist, and yet no murmur be produced. In the typhoid softening of the heart, we have rarely recognised a valvular murmur; and where it did occur, there was reason to believe that carditis had supervened. The typhoid softening, with a pulse from 30 to 40, commonly exists without any murmur.

The preceding observations are published with the view of drawing the attention of the Profession to a combination of cerebral and cardiac phenomena, of which our knowledge is still imperfect.

Dublin Quarterly Journal of Medical Science, Aug. 1846, *p.* 73.

27.—*Effect of Electro-magnetism on the action of the heart.*—By Dr. Budge, Lecturer in the University of Bonn.—[Dr Budge performed the following experiment in the presence of several very eminent gentlemen, the result of the operation he says is invariable.]

Let an electric stream, by means of a magneto-electric rotation apparatus, pass through the medulla oblongata of a frog, when the palpitations of the heart will cease as long as the rotation is in action; and it will begin again, in the same way as before the experiment, a few seconds after the rotation has ceased. This experiment produces, in fact, tetanus in the whole of the body. When any other part of the spinal marrow is exposed to the same electric stream, tetanus is equally produced; but the heart continues its movements without interruption. Finally, when the whole skin of the frog is subjected to this stream, so that one wire lies close to the heart, tetanus in the whole body is produced, but without affecting the heart. Directing the stream upon the ramus intestinalis nervi vagi, lying before the lungs, produces the same effect as upon the medulla oblongata.

Lancet, May 23, 1846, *p.* 581.

28.—*Diagnosis of Chlorotic Anæmia.*—Every instance of anæmia is not always discoverable upon inspection of the tints of the skin, nor upon a survey of the state of the patient as to her *embonpoint*, since, in some anæmic individuals, the cheek and lips retain a considerable degree of freshness and vivacity of colour from a natural exuberant vascularity of the tissues composing them; and there are not a few anæmic patients who even grow fat during the malady. Now I should in such a case test the state of the lungs by asking the patient to make several forced inspirations, in order to discover whether the capacity of the lungs or atmospheric air were at all lessened by disease; and should she appear to be able to inhale fifty or sixty cubic inches at an inspiration, I should have a right to conclude that the air-cells of the lungs were free from pressure or obstruction, and duly expansible. This view might be confirmed by percussion and by auscultation of the chest. Still the respiratory difficulties remain to be accounted for, especially those proceeding from every muscular effort. I should next examine the frequency of the pulse, which, in a state of rest, might be sufficiently quiet—as at 70, or 80, or 90, beats per minute. If now the patient be requested to walk to the head of the stairs, and return immediately to her seat, she will, if anæmic, be found to have the pulse greatly accelerated and beating in the most troublous manner, to the number of 120, and even 160 pulsations per minute, while her respirations may amount to 40 and even 60 per minute. This fact serves to disclose the existence of an anæmic state, which, in order to effect any powerful innervation as exercise, &c., requires this great and extraordinary precipitation in the movements of the heart.—*Dr. Meig's Notes to the Translation of Colombat on the Diseases of Females.*

Medical Gazette, July 17, 1846, *p.* 115.

ORGANS OF RESPIRATION.

29.—ON THE CAPACITY OF THE LUNGS, AND ON THE RESPIRATORY MOVEMENTS, WITH THE VIEW OF ESTABLISHING A PRECISE AND EASY METHOD OF DETECTING DISEASE BY THE SPIROMETER.

By John Hutchinson.

[In a paper read before the Royal Medical and Chirurgical Society, by Mr. Hutchinson, he speaks of the difference in the quantity of air respectively drawn in or thrown out of the lungs, as follows:—

1. Residual air; which is that air remaining in the lungs that cannot be expelled by the most violent muscular effort.

2. Reserve air, or that which remains in the lungs after a gentle expiration, but which could be expelled by muscular effort.

3. Breathing air; that which is required in performing the ordinary gentle inspiration and expiration.

4. Complemental air; that air which may be drawn into the lungs by the most violent inspiration.

5. Vital capacity; all the three latter divisions combined, being the greatest voluntary expiration following the greatest inspiration.

Mr. Hutchinson has proved that the quantity of air which can be expired does not depend upon the girth of the thorax, but the height of the individual; and this being known, the number of cubic inches he can expire, in a healthy state, may be ascertained with accuracy. On this subject Dr. Taylor said]

The application of this principle in the diagnosis of disease is most important. Mr. Hutchinson has found that persons who are the subjects of phthisis expire a quantity of air very much less than they ought to do if healthy. In one interesting case (that of Freeman,) the quantity of air expired when he was in health was actually measured, and the experiment being repeated some time after, this man was found to expire ninety cubic inches less than on the first occasion; at this time no disease in the lungs had been detected by two experienced auscultators; the man, however, was not in good health, and some months afterwards he died of phthisis, as proved by post-mortem inspection. I, myself, examined a number of consumptive patients by Mr. Hutchinson's apparatus;* I have found them to expire much less air than, by calculation, they ought to do if in health. Another singular and important result is this, that the quantity of air which a man can expire is not necessarily proportioned to the absolute size of his lungs or the number of cubic inches of space in his chest. We have seen, in the casts exhibited, that the lungs of one man who expired a large quantity of air were actually much smaller than the lungs of another man who expired a far less quantity. Mr. Hutchinson believes that the quantity expired depends less upon the size of the chest or lungs than upon the mobility of the thoracic walls. The diminished quantity of air expired in phthisis seems to result less from the space occupied by the tubercular deposit than from the restriction which is in some way imposed upon the thoracic movements. The bulk of the tubercular deposit in one case was only equal to one cubic inch, whilst the diminution in the quantity of expired air was forty-seven cubic inches. Hence, by this apparatus, it may turn out to be possible for us to distinguish phthisis at an earlier period than by any other means; and this has been actually proved in one of the instances adduced.

The same principle, however, complicates very much the application of Mr. Hutchinson's results in the differential diagnosis of disease. Many diseases, without the chest as well as within it, may limit the respiratory movements, and so lessen the quantity of

air expired. So that, for the present, a great diminution of the expired air can only be considered to indicate the existence of disease somewhere; the seat and nature of this disease must be determined by other means, unless further investigation shall render the indications of the spirometer more precise than they are at present. As much has been accomplished in this direction as we could look for from one individual, and in a limited time. Mr. Hutchinson has done enough to make it incumbent on physicians generally to prosecute the investigation, so as to lead to the confirmation or invalidation of his views, as well as to their extension and limitation in particular cases. In the hospital to which I am attached, one of the spirometers has been purchased, and a certain number of observations have been made, which, as far as they go, quite confirm those of Mr. Hutchinson.

A great advantage in the use of the spirometer in disease of the chest is this, that comparatively little education is required for it. The practice of auscultation requires a long education and constant application; the spirometer may be used, for the purposes to which it is applicable, with very little previous study. Hence the importance of the instrument, as pointed out by the author, to army and navy surgeons, to insurance companies, and in private practice generally.

[At the conclusion of this paper, a Fellow of the Society submitted himself to experiment. He was found to be five feet five inches high, and according to Mr. Hutchinson's tables, the quantity of air he could expel should be 206 cubic inches: on breathing into a spirometer, he breathed 205 cubic inches. This was very satisfactory, and shewed that Mr. H.'s tables must have been constructed with great care and accuracy.]

Medical Gazette, June 12, 1846, *p.* 1047.

30.—*On the Treatment of Pneumonia.*—By Dr. A. T. Thomson.—[The indication to be fulfilled in treating inflammation of the lungs, are, 1st, To subdue inflammatory action; 2nd, To prevent deposition; and, 3rd, To guard against relapse. With the first intention, moderate bleeding, at the commencement of the attack, will be useful, and if the crepitant rale remains after this, it will be a safer criterion for the repetition of the bleeding than the buffy appearance of the blood. Dr. A. T. Thomson considers that the use of tartar emetic, as a contra-stimulant, in full doses, is far more advantageous than repeated bleeding. He observes:]

The opportunities which I have had of witnessing its influence have convinced me that doses of a grain, or a grain and a half, administered every third or fourth hour, after a moderate venesection, are sufficient to insure every advantage that can be anticipated from the employment of tartar emetic in pneumonia.

My practice, as soon as I have fully satisfied myself of the existence of the disease, and if the attack has not run on to the second stage, is to order one bleeding to the amount of sixteen or

twenty ounces; to follow this, immediately, with three or four grains of calomel and one grain of opium, with the view of preventing that nervous irritability which often succeeds the use of the lancet, and of sustaining the beneficial impression made on the system by the bloodletting. In two hours afterwards, I give one grain of potassio-tartrate of antimony in a fluid ounce and a half of emulsion of bitter almonds, and repeat this dose every third or fourth hour, until a decided diminution of inflammatory action takes place—that is, until the crepitation has nearly disappeared, and the sputa are no longer rusty and tenacious. The intervals between the doses of the tartar emetic are then extended to six hours, and afterwards to eight hours, and so continued until convalescence is confirmed. I prefer the bitter almond emulsion, on account of its containing hydrocyanic acid, which has a sedative quality, and a more decided influence in quieting the nervous system, and abating the cough, than small doses of opium. When the pneumonia is uncomplicated, this plan, with the occasional aid of some mild aperient, has, in my hands, seldom failed to carry the case to a successful termination. When the attack has passed beyond the first stage, when dulness on percussion indicates hepatization, then the object of the second indication—namely, to excite the capillaries and prevent farther depositions—requires attention; and, in order to fulfil this indication, I order four or five grains of mercury with chalk, or one grain of calomel, to be given in each interval of the administration of the tartar emetic. In the statistical table, twenty-three out of the thirty-eight cases were treated with mercurials in addition to the tartar emetic, because, in hospital practice, the patients are seldom brought in until the disease has progressed, and the solid effusion, if I may employ such a term, has taken place. But in the remaining fifteen cases no mercurial was employed, the tartar emetic was alone trusted to, and it did not disappoint my anticipations; but in no instance was its employment commenced until after the abstraction of blood, either by the lancet or by cupping. I have never carried the mercurial action to ptyalism; but it is requisite to procure the usual symptoms of its decided impression on the habit, by producing slight tenderness of the gums. In ordinary cases, I have seldom had occasion to order blisters; but, from the nature of hospital practice, they are demanded, and they were employed in sixteen of the cases in the statistical table. Such are the advantages of moderate doses of tartar emetic in the treatment of pneumonia. In the same manner as when larger doses are administered, vomiting almost always occurs after the first and the second dose of the remedy; but on the third dose the tolerance is established, and even when the dose is increased, neither nausea nor vomiting afterwards take place.

If I may be permitted to state a hypothetical opinion, I should venture to offer my view of what has been termed the tolerance of the habit against the well-known influence of tartar emetic, when administered in moderately large doses. It has been supposed by

Rasori and others, that the inflammatory state of the system in pneumonia is the cause of this tolerance, and that this would cease if the remedy were continued after every trace of general inflammation had disappeared. I am, however, of opinion, that the intolerance does not depend on the state of the habit, but solely on the topical influence of the tartar emetic on the mucous membrane; and upon its influence, also, on that membrane operating as a counter-irritant; and to this its beneficial effect in subduing inflammation is to be attributed. When a grain or more of tartar-emetic is swallowed, a portion is carried into the circulation, and, acting on the nervous centres, it causes vomiting; but a portion also acts topically on the mucous membrane, and sets up subacute inflammatory action there. The second dose also causes vomiting, because the inflammation, although extended, yet is not sufficient to prevent absorption: but when the third dose is given, the absorption no longer takes place, and, consequently, no vomiting is induced. It is a well-established fact, that an inflamed surface is incompatible with absorption; and to this, in a great measure, are we to attribute the accumulation of serum in serous cavities in dropsy. If my views be admitted, I would farther state, that the determination of blood to so extended a surface as that of the mucous membrane, is, in my opinion, sufficient to relieve the congestion in the lungs; and that it is, in truth, the cause of the benefit which follows the employment of the tartar-emetic. Such is my opinion of the rationale of the action of tartar-emetic in pneumonia; but on this part of my subject it is not my intention to insist, my chief object being to demonstrate, that this powerful therapeutical agent can perform all that can be expected from its administration in much smaller doses than Rasori and his followers have employed; that such doses incur no risk, seldom bringing on diarrhœa, whilst hypercatharis has followed the administration of large doses; and that in some cases it sets aside the necessity of large and repeated abstractions of blood, and, consequently, cures the disease without that injurious impression on the habit which has been frequently seen to follow copious bloodletting. Another advantage obtained by this mode of practice in pneumonia is the gradual advancement of the convalescence, and the restoration of the patient to health and vigour without the aid of tonics. By gradually letting down the action of the tartar-emetic, the stomach recovers its tone, and the assimilating function rapidly restores any waste which the necessary treatment of the disease may have occasioned.

Lancet, August 22, 1846, *p.* 207.

31.—*On Pneumonia.*—I have repeatedly seen pneumonia (one of the most fatal of all internal inflammations) and pleurisy terminate favourably without any active treatment, their existence having been overlooked until their course was nearly run. Surely these and similar facts should teach us a little more caution in assigning

so large a part to ourselves, and so small a part to nature, of the credit that is attached to the favourable termination even of cases of severe inflammatory diseases.—(*Dr. Taylor.*)

Lancet, May 9, 1846, *p.* 520.

32.—*Copaiba in Inflammation of the Mucous Membrane.*—[At a meeting of the Medical Society of London, Mr. Roberts related a case of nephritis, in which, after bleeding, and the ordinary treatment of that disease, some inflammatory symptoms still remaining, and suppression of urine more particularly, he exhibited copaiba in ten-drop doses three times a-day, with the effect of restoring the secretion.]

Lancet, June 27, 1846, *p.* 705.

33.—*Inhalation of the Fumes of Nitrate of Potash in Spasmodic Asthma.*—A friend of Mr. James B. Harrison's, subject to spasmodic asthma, having seen in a newspaper, inhalation of the fumes of nitrate of potass recommended in that complaint, was induced to try it, which he did, with the most perfect success. He made use of a piece of blotting paper, about the size of his hand, dipped in a saturated solution of the nitrate of potass, and afterwards dried. This was placed on a common plate, and, being ignited, the fumes were speedily sensible in the room. He described its operation "as cleaning the passages and gradually opening the air-tubes." He said that the respiratory murmur became louder and less stridulous under its continued influence. The effect was always produced in about a quarter of an hour, and though he had used the same remedy nearly twenty times, he had never been disappointed in the result.—*Lancet.*

A correspondent of the *New York Medical Gazette* has derived essential benefit, in severe attacks of asthma, from the above remedy, and has prescribed it for several patients with equal success. He recommends that, at the approach of a paroxysm, the vapour should be inhaled by burning it in the room, or smoking it in a tobacco-pipe.

Medical Gazette, Sept. 4, 1846, *p.* 421.

34.—*On the Contagion of Hooping Cough.*—By J. J. M'Gregor, M.D.—[The subjects of epidemical and contagious influence, are always of the most interesting nature; and not the less so in connection with this disease, the pathology of which is so much disputed. It certainly is "unlike any other lesion as yet recognised by nosologists, forming, as it does, a connecting link between the pyrexiæ and the neuroses.]

That hooping-cough is produced by epidemic influence is believed by all medical men; and that it may also be imparted by contagion is as generally acknowledged; yet, when both doctrines can be proved clearly, by well-authenticated cases in practice, it

appears to me desirable they should be noticed. The cases I am about to adduce also illustrate another interesting fact,—that after a certain time the contagious influence ceases to operate, and although the disease may continue in all its virulence, and even prove fatal, all danger of contagion, after the phase I allude to, is over. To determine what that exact period is, would, if it is possible to do so by observation, be of great importance, as it could be then distinctly laid down and acted upon.

E. and A. P——, two young ladies, sisters, the former aged ten years, the latter seven, took hooping-cough in London, in January, 1846, during the first stage of which they were sent to school in the suburbs. Two other young ladies, R. M——, and A. G——, returned to the same school at the same time, perfectly free from cough, but in about ten days exhibited the usual symptoms, which terminated in the second stage, the peculiar phenomena of which serve to designate the disease. At this period, every child in the school, who previously had it not, took it, clearly proving that contagious, and not epidemic influence, was in operation. At the end of six months from the beginning of the first stage, and a month after the hoop commenced, M. M——, aged seven years, who never had had the disease, with two other children similarly circumstanced, came to school, but not one of them took it, the poison being exhausted, thus proving the very limited nature of its existence.

It would appear that, on an average, about two months form the limit of its contagious properties, after which there is little or no danger.

Although my chief object, in making these few observations, had chiefly reference to the etiology of hooping-cough, still, I trust, a word about the treatment of this fatal disease will not prove irrelevant. Physicians of all countries agree that the first stage should be treated mildly, with antiphlogistics, daily emetics of ipecacuanha, &c.

There is one point, however, upon which authors have not, in my opinion, sufficiently dwelt, and which, I feel convinced from observation, is the most important of all others,—a strict confinement to the house, and, if possible, to one room, except during the summer months.

In almost every case where this plan has been strictly enforced, in my experience, the result has been favourable, and the duration of the disease comparatively brief. Change of air, or the open air, is only to be recommended in the second stage; and even here, with much caution, a violent exacerbation of all the symptoms being a frequent result of such practice.

It is, as might be expected, in the second stage, or "stadium convulsivum" of Dr. Aberle, that the greatest difference of treatment exists; and it is not without some diffidence I venture to offer my opinion on so difficult a subject. In a paper, published by me in the May number of the *Dublin Medical Journal* for 1839, I

have advocated a mild course of mercury where age and other circumstances did not prevent it—an opinion I have had no reason since to change. I must also bear my testimony to the value of the treatment recommended by the late Dr. Beatty, as well as his son, Dr. Thomas Beatty, of Dublin, which, in several recent cases, I decidedly found to cut short the convulsive paroxysm, in some instances in a week or ten days.

The formula recommended by Dr. Groves in his work on "Clinical Medicine," was that I employed; it is this:—Tincture of Cantharides; compound tincture of opium; of each, half an ounce; compound tincture of cinchona, five ounces and a half. A teaspoonful to be taken three times a-day in a little boiling water, and if no strangury is produced, the dose is to be increased.

The modus operandi of the mixture is too obvious to require comment.

Lancet, Aug. 8, 1846, *p.* 146.

35.—*On the Action of Ammonia in Hooping-Cough.*—By R. H. Allnatt, M.D., London.—[Dr. Wachtl, of Vienna, recommends the employment of ammoniated tincture of cochineal in hooping-cough. Dr. Allnatt thinks that the spasmodic action of the glottis which remains after the febrile action has subsided, arises from morbid irritability of the stomach, engendering a morbid secretion, which stimulates the exhalent vessels of the trachea and bronchi to inordinate action. Dr. Allnatt adds:]

The excretions of the stomach, in this stage of the disease, if tested, will be found, almost invariably, to be of extreme acidity, sometimes so intense, as to excoriate in their passage the œsophagus, and roughen the teeth, as effectually as would a dose of dilute hydrochloric acid. Emetics, so greatly extolled for their virtues in subduing the paroxysms of hooping-cough, act as temporary alleviants, by ridding the stomach of its acrid secretion; but the relief is transient, because the organ speedily resumes its disordered action. Many years ago, during a temporary visit to a populous town in the west of England, while the hooping-cough raged as endemic to an alarming extent, many children falling victims to its attacks, I had an opportunity of testing the merits of practice founded upon the views I have taken, and the result fully justified my anticipations, as the cases, however urgent, were rapidly and permanently relieved.

Dr. Wachtl, by his ammoniacal mixture, is stated to have "cured nine cases in from three to eleven days," and I fully believe the assertion to be quite consistent with truth. The liquor ammoniæ, the active ingredient of the formula, neutralized, in some degree, the acid matter with which it came in contact, and hence arose the benefit; but we have other alkalies, less stimulating in their action, and much more effectual, than ammonia.

After preliminary purgation with calomel, (conjoined with antimony, if the febrile symptoms run high,) and an occasional emetic

to clear the stomach, nothing in my experience is so efficacious as small and repeated doses of the carbonate of potassa. The following combination has been extensively distributed to the poor in seasons when hooping-cough has raged as an epidemic, and I can attest the almost invariable success which has attended its administration—what portion of the merit is due to the cochineal I do not know:—Take of carbonate of potassa, one drachm; cochineal, ten grains; boiling water, half-a-pint. For an infant, one teaspoonful to be taken thrice daily: the dose increased according to age.

In violent cases, much benefit will often accrue from the simultaneous employment of the following liniment, which is to be well rubbed, morning and night, over the whole course of the spine:—Hartshorn and oil of amber, of each half an ounce. Mix for a liniment.

Lancet, June 6, 1846, *p.* 626.

36.—*Surgical treatment of Croup.*—By M. Guersent.—[M. Guersent considers croup to be an angina laryngea, with formation of false membranes. The antiphlogistic treatment of croup generally is useless, and the application of leeches in some cases positively does harm. Emetics are very useful, they act mechanically. Mercury is of great use if given early; but M. Guersent observes:]

Surgical means are those on which we chiefly depend, and by surgical means we understand not merely tracheotomy, but also local applications to the fauces. Those local applications are liquid or solid. Various liquids may be employed in the treatment of croup—dilute muriatic acid, solution of alum, &c., but that which should always be preferred is nitrate of silver, either in a very concentrated solution or at various degrees of dilution. Among the solid applications powdered alum and nitrate of silver in substance may be mentioned.

Dilute solutions generally possess little activity, yet they often suffice at the commencement of the disease when pseudo-membranous spots form on the mucous membrane of the tonsils or pharynx. It is seldom that croup does not commence thus; sometimes, indeed, but rarely, it begins in the bronchial tubes or trachea, or attacks the larynx at once. Such an event is, however, of extremely rare occurrence, and if false membranes are frequently not seen on the fauces, the reason is that the parts have not been inspected till the first stage of the disease has passed. I was once called to see a child who had the preceding night been sleepless, restless, and slightly feverish; there was no cough, nothing to call attention to the pharynx. I inspected the throat, however, as I make it a rule always to do, and perceived some white patches on the tonsils, which I immediately cauterized; but notwithstanding, croup of the severest kind set in, and tracheotomy had ultimately to be performed, but without success.

At the commencement of croup, then, false membranes almost always exist on the tonsils or on the pharynx, and are often over-

looked, as the throat is not suspected until the larynx becomes affected, but the false membranes have then been detached from the fauces, and not a trace of them is visible. But it is when these false membranes exist on the fauces—that is to say, at the very commencement of the disease, that surgery is most efficacious; it is then that you may reasonably expect to cure croup, and will in fact succeed in doing tolerably often, whereas at a later stage you will almost certainly fail.

In cauterizing the fauces with solid nitrate of silver which is commonly used, being always hard, care should be taken to have the child's head held firmly and most thoroughly steady; the caustic, too, should project but a very short distance beyond the port-caustic, for otherwise the slightest motion of the child might break it, and the fragment would fall in the pharynx. The proceeding is in itself a trifle, yet its consequences may be serious if those precautions are not observed. The caustic should not be applied to the false membranes only, the surrounding mucous membrane should also be touched with it, as thus the progress of the pseudo-membranous exhalation will most probably be arrested. The application of the caustic may succeed locally and dispel the false membranes at the point to which it has been applied, but they may nevertheless extend and gain the epiglottis. Caustic is then still the best means at our command, but it must be applied in solution by means af a sponge proportionate in size to the width of the pharynx, and attached to a piece of whalebone bent at an obtuse angle; the position in which the surgeon stands while doing this is not a matter of indifference; if he stands in front of the patient, and the patient cough, the ejected matter may blind him for the moment, it is therefore advisable to stand at the side of the patient, and passing the sponge down on the base of the tongue suddenly semi-rotate it several times, the upper surface of the epiglottis is thus cleansed, and sometimes fragments of false membranes come away on the sponge; the epiglottis also may be raised, and a drop or two of the caustic liquid enter the larynx, which is known by the momentary suffocation of the patient and the succeeding cough. A few examples of cure have occurred after this operation, which should be repeated three or four times within twenty-four hours. Inhalations of muriatic and acetic acid have been recommended; in some rare cases they may be useful, but the efforts excited, whether by inhalations or emetics, have no chance of succeeding, except when the bronchia secrete mucus copiously, which detaches and favours the expulsion of the false membranes; all these therapeutic agents fail when the cough is constantly dry.

If the disease still gains ground, we must recur to tracheotomy, which, unfortunately, too often fails. This operation has always been performed from time to time in this disease. Twenty years since M. Bretonneau performed it frequently in an epidemic of diphtherite, but it has chiefly gained ground since the researches of M. Trousseau, who has performed tracheotomy in one hundred and

thirty-six cases of croup, thirty-two of which recovered. I myself have operated in thirty-six cases, and succeeded completely in four. MM. Gerdy, Velpeau, Berard, Jobert, &c., have succeeded in some cases.

When the child is menaced with asphyxia, and the treatment fails to give relief, a fatal termination is imminent. We should not stop to consider the situation or extent of the false membranes; the child will die in five or six hours, or sooner, and tracheotomy, however doubtful the result, is rigorously indicated. If the false membranes have only attained the larynx, the case is favourable, but delay lessens the prospect of success: in croup, as in strangulated hernia, we should always, without precipitating the operation, have the probable necessity of performing it in our mind. Tracheotomy almost always fails, because it is performed too late. The non-existence of false membranes in the fauces does not contraindicate the operation. The child is threatened with asphyxia, makes violent respiratory efforts, and will die if not relieved.

When the operation is performed if there are no false membranes in the larynx, nothing more need be done than keeping the wound open. But if false membranes present at the wound or are expelled, they should at once be extracted with a forceps. It has been recommended to pass down the trachea small pieces of sponge moistened with warm water, which, being suddenly withdrawn, may detach the false membranes, but I should think that by such a proceeding we might push the membranes into the bronchiæ or impact them in the trachea. M. Guersent then recommended the use of the double canula after the operation in preference to the ordinary single canula, and deprecated introducing solution of nitrate of silver into the trachea to favour the expulsion of the false membranes, as practised by MM. Bretonneau and Trousseau. After the operation the surgeon must remember that he is also a physician, and combat inflammation of the lung if it exists, &c., by suitable treatment.

In the last number of the *Annales de la Societé de Med. d'Anvers*, M. Haine states that he has performed tracheotomy in croup in sixty cases, and eighteen times with success. He has become a convert to the opinion that the operation should be performed as soon as possible, as soon in fact as the larynx is affected, as the extension of the false membranes may be thus arrested. He objects to M. Bretonneau's double canula that it is too short and inflexible, and prefers a portion of large gum-elastic tube.

Dublin Medical Press, July 29, 1846, *p.* 69.

37.—*On Asphyxia.*—By Sir B. Brodie.—[The subject of asphyxia has been so fully treated of by Mr. Erichsen, as will be seen by an abstract of his paper in Retrospect, Vol. XI., Art. 13; and by other authors in Vols. IX. and X., (see General Index in Vol. XIII.), that in the Lecture of Sir B. Brodie on the effects of Strangulation, not much fresh information will be obtained. When an

individual becomes strangulated, the cause of death will generally be a closure of the trachea, preventing respiration, in the same way as if the patient were submerged. The following, according to Sir B, Brodie, is the mode of death:]

1. The trachea is obstructed, so that air cannot enter the lungs. 2. The blood passing through the lungs does not nndergo that change which respiration produces, and which is nccessary to life. 3. Dark-coloured blood, which has not been purified by exposure to air, is transmitted to the left side of the heart, and from thence to the brain and other organs. 4. The heart continues to act, circulating dark-coloured blood, but its actions gradually become weaker, and, in the course of a very few minutes, cease altogether.

The heart is the *ultimum moriens;* and ceases to act, according to Sir B. Brodie, not from insufficient stimulus applied to it by the blood, but from impairment of its nervous energy—the result of black blood poisoning the brain. Mr. Beck has recently observed that the cardiac nerves are accompanied by "processes or elongations of the gray material of the nervous system;" and this confirms Sir Benjamin in his belief that these nerves "possess the property of generating nervous influence," and that on their nervous influence the movements of the heart depend.

The symptoms of strangulation follow this course: 1. Discoloration of the lips, and other parts; the result of venous congestion, and of the want of oxygenated blood. 2. Involuntary actions of muscles; convulsive; not accompanied with pain, probably, and caused by "contact of the dark-coloured blood with the brain and spinal cord." 3. The diaphragm and intercostal muscles continue attempts to act, respiratorily,—on an average from a minute and a half to two minutes. 4. When the efforts at inspiration cease, "the pulse of the head and arteries is still distinctly to be felt; and the action of the heart continues of sufficient strength to maintain the circulation for two or three minutes longer." The heart having ceased to act, death is fixed; recovery is impossible.

If the ligature be removed from the neck before the contractions of the diaphragm have ceased, air is drawn into the lungs, respiration is restored, the blood is again oxygenated, and the animal rallies. Also, at a further stage, if in the short interval during which the heart continues to act, after the contractions of the diaphragm have ceased. artificial respiration be maintained, circulation and oxygenation are continued, and normal respiration is resumed. But the heart having fairly ceased to act, Sir B. Brodie is decidedly of opinion that nothing can restore the animal—that the heart will not again be brought to act so as to circulate the blood.

Treatment resolves itself into simple indications; it being remembered, however, there are necessarily but few cases in which the surgeon has an opportunity of hopeful interference. 1. If the ligature is removed before the efforts of the diaphragm have ceased, "all that you have to do is to watch the patient

carefully; if natural respiration continue, leave him to himself; if it cease, supply the want by inflating the lungs artificially." 2. If the efforts of the diaphragm have already ceased, have recourse to artificial respiration without delay. There is no time to lose. In two or three minutes, after the last heave of the chest, the heart's action will have ceased, and then all hope is over. 3. In successful cases, so soon as normal respiration is established, inflation is desisted from. But treatment is not to cease. The patient is not safe. Dark blood has been circulating in the brain; and symptoms like those of poisoning by a narcotic may exist. Coma may remain. By and by the respiration may cease. Then has arrived a second period at which artificial respiration may be necessary to preserve life. And, in truth, the practitioner may expect to be called upon to inflate the lungs more frequently at this second period than at the first.

As to the *mode of inflating the lungs*, it is obvious that in the hurry and excitement of the emergency, we are not to trust to syringes, bellows, tubes, elastic gum bottles, or other contrivances which may be constructed very ingeniously and suitably for this express purpose. They are not to be had. And the surgeon is lucky if he can secure a common bellows. In a certain rural and remote district of Scotland, the belated traveller has found that "there is nae wale o' wigs," and wisely secured the first that came to hand. And so here. Secure the bellows And if that cannot be had, look for a tube of any kind which may be inserted into the nostril; a large elastic catheter is very suitable; if this cannot be got, roll up a piece of card into a cylinder, and with this, and one's own lungs, a tolerably efficient substitute for bellows may be put in play. Then the following practical points require attention; 1. Avoid undue forcing of air into the lungs; otherwise the air-cells may be burst; air may enter the blood-vessels, and the result is certainly fatal. 2. Inflate at proper intervals; imitating as clearly as possible the rythm of natural respiration. 3. There is no necessity for warming or oxygenating the air; the attempt is just time lost. And it is fortunate that such manœuvres are not essential; seeing that the surgeon is not likely to be provided with either a pocket stove or a portable gasometer. 4. The upper part of the body is exposed, so that the movements of the chest may be accurately noted. 5. The inflating tube is introduced into one nostril. There is no necessity for opening the trachea; that is only required when previous disease has obstructed the larynx. 6. The other nostril and mouth should not be closed. They are safety-valves, by which over-distension of the lungs is prevented. 7. An assistant presses the box of the larynx against the vertebra, so as to prevent inflation of the stomach. Were this cavity filled, the descent of the diaphragm would be prevented, and no air could enter the lungs. 8. Electricity and galvanism are inferior to the bellows, for they waste time in application. And the following assertion—repeating more broadly the opinion already stated—hurries him who

believes it, to the best employment of the very few moments he has to spare.

If that action of the heart by which the circulation is maintained should cease, as a consequence of the suspension of respiration, it can never be restored. This I positively assert, after having made it the subject of a very careful investigation. If others have held a different opinion, it is because they have confounded those feeble and irregular contractions of the heart, which may last for a long time, but which mean nothing, with those regular and powerful movements which are necessary to propel the blood through the system.

In the after-treatment—natural respiration having been restored—it may be necessary to abstract blood, on account of congestion; but this must be done with extreme caution seeing that the powers of life have been brought low by the faulty circulation in the brain. The warm bath is not essential. But the patient should be kept in an atmosphere of a moderately warm temperature, "to compensate for the insufficient generation of animal heat, which is the consequence of the impaired state of the functions of the brain, whether arising from the influence of a narcotic poison, or from another cause.

In another lecture, Sir B. Brodie treats of *drowning*. The lamprey and benito can often vary their existence, pleasantly, by keeping their heads in air; but man cannot follow their example by immersing his head in water with impunity. Death takes place, as if by strangulation; in both cases the "want of due oxygenation or decarbonization of the blood being the sole cause of the animal's destruction." After immersion, a deep expiration takes place, by which bubbles of air are expelled from the lungs. Then comes an ineffectual effort to inspire; but water does not enter, instead of air; spasm of the muscles of the larynx seeming to prevent this. The attempts to breathe are repeated several times, and after each attempt a small quantity of air is expelled from the mouth and nostrils, until the air-cells of the lungs are almost completely emptied. Then insensibility occurs, and convulsive actions of the muscles mark the instant when the brain begins to suffer from the influx of the dark-coloured blood. Soon all motion ceases; save in the thorax, where the heart may be felt yet feebly pulsating. Perhaps some further ineffectual efforts at respiration are resumed, and then all is still. The interval between cessation of respiratory effort and cessation of the heart's action is brief in the case of strangulation; but it is still more brief in drowning. And the whole succession of events, in the latter case, succeeding rapidly, are complete within a very few minutes. Our author is firmly of opinion, that in cases of complete and uninterrupted submersion, life has never been retained after more than five or six minutes have elapsed under water. All stories to the contrary, he holds to be apocryphal; and, we believe, most justly.

"The cases which have been reported to the Royal Humane Society of drowned persons who have been restored to life, when

taken up cold and breathless after an immersion of half an hour, show that it is not travellers alone that are guilty of the vices of exaggeration and invention. We are compelled to regard these as mere extravagant fables, not more authentic, though certainly less poetical and elegant, than those of nymphs and mermaids, who reside in grottoes beneath the waves of the sea, or than those Arabian fictions, which have astonished our youthful imaginations with the history of submarine nations, whose princes dwell in palaces of crystal at the bottom of the ocean."

The time during which divers, professed and accomplished divers, are able to remain under water, probably never exceeds two minutes; although it may *seem* to be much longer, and the exaggeration of the time of submersion, by a bystander, in the case of either drowning or diving, may very readily be imagined to take place as it were involuntarily, without any intention to deceive; the observer being himself deceived as to the lapse of moments, by the multiplicity of events which have been crowded into them.

"We all know that our estimate of time depends on the number of circumstances which successively attract our notice. When an event occurs which powerfully impresses the mind, we watch every one of the minutest changes that take place, and the time which elapses before the whole event is completed, appears to be proportionally prolonged. Thus we hear of earthquakes in which the commotion of the earth is said to have continued during the space of eight or ten minutes, although in all probability they lasted for no longer time than thirty seconds; and in the same manner we may account for the mistakes to which I have just alluded. When the infidel sultan of Egypt refused to believe that Mahommed could have ascended into the seven heavens, and held one thousand and one conferences with the Deity in the brief space of a few minutes, the Mussulman divine, who was consulted on the occasion, endeavoured to bring his majesty to a more strict faith, by demonstrating that a short space of time was converted into a long one when a great number of important events were crowded into it."

The treatment of the drowned is similar to that of the strangled. If the removal from the water take place before the diaphragm has ceased to act, respiration may be resumed naturally; if not artificial inflation is to be employed. And at two periods such inflation may be necessary; first, during the short interval between the cessation of the natural efforts to respire and the cessation of the heart's action; second, when the patient lies in a state of stupor, in consequence of the injurious effects produced by transmission of dark-coloured blood to the brain. During resuscitation, "it must be of importance to supply the waste of animal heat, by placing the patient in a warm temperature;" the warm bath forms a simple and convenient method of attaining this object; and it may produce another good effect, "by promoting the natural efforts to respire." Abstrction of blood is even of more doubtful propriety than in cases of strangulation. And there are other things which should not be done.

"We have been directed to employ friction of the surface of the body for the purpose of assisting the circulation of the blood; as if this could do any real good when the action of the heart is ceased; or as if it would not do actual harm by overloading (if I may be allowed to use such an expression) the right auricle and ventricle, when the action of the heart was still going on. The injection of tobacco, and the application of stimulants, belong to the same class of remedies which are either mischievous or useless, proposed formerly by those who did not know what to do, but who thought that they were expected to do something, but now rejected by a more enlightened physiology."

British and Foreign Medical Review, July, 1846, *p.* 162.

ORGANS OF DIGESTION.

38.—ON THE RELATION BETWEEN THE CONSTITUENTS OF THE FOOD, AND THE SYSTEMS OF ANIMALS.

By R. D. Thomson, M.D., &c. &c.

The first individual who showed that wholesome food should contain matters identical with animal substances, was Beccaria, of Bologna, who wrote an excellent paper on the subject in 1742. Dr. Prout has taught and extended this view for more than twenty years, and his opinions are now followed by all physiologists. That the systems of animals are capable of sustentation by a supply of fibrinous matter alone, is obvious from the history of the primitive inhabitants of the prairies of America; but it appears from experiments made on the nutrition of animals with pure fibrin, that an auxiliary in the produdtion of animal heat is either indispensable or advantageous, since animals fed on fibrin alone invariably declined in health.—(Magendie.) That the amount of *calorifient*, or heat-producing food, in contradistinction to nutritive food, properly so called, as it has been well defined by Liebig, is out of all proportion greater than that required to supply the waste of solid matter of the body, is obvious from an experiment made by the author on a cow, in a state of rest, in which it was found that 15¼lbs. of food were taken into the circulation in one day. Of this, only 1½lbs. was nitrogenous or nutritive of food; the rest being *calorifient* and salin e. From this experiment, frequently repeated with nearly the same results, the author concludes that in such a condition of the system, the natural relation of the nutritive to the calorifient constituents is nearly as one to eight one-third. The author gives formulæ for calculating the amount of nutritive and calorifient food, with a view to determine the laws of dieting. He also gives tables from his

own analyses, of the amount of nutritive matter in about twenty different kinds of vegetables (principally farinaceous food.) By these it is shown that oatmeal consists of 1 nutritive and 5 calorifient matter, aud barley 1 and 7—facts which explain the universal employment of these substances. From these tables it is also inferred, that as milk is the natural food of the infant mammalia, the constitution of their food should be formed on the same type, and that the use of arrow-root or starchy food, where the relation of the nutritive to the the calorifient matter is as 1 to 26, instead of being as in milk 1 to 2, is opposed to the principles attempted to be established by the author. He observes that, in nutritive tables, it is usual to give a column af equivalents—representing, for example, 100 parts of beans as equal in nutritive power to 1160 of starch; but, according to the author's views, snch a method is not founded on scientific principles. In a correct plan of dieting, a proper equilibrium must be maintained between the wants of the animal organism and the constitution of the food. The importance of this view is supported by the results of an extensive series of experiments, made by the author with different kinds of food upon cows. These results are highly interesting, and were given in a tabular form, but our limits will not allow us to detail them at length.

The author concludes by observing that, when more condensed forms of vegetable are required, the object might be obtained by mixing certain portions of American flour with different kinds of meal, which could not otherwise be raised by fermentation; for example, by mixing equal parts of flour and oatmeal, flour and peas or barley meal, excellent bread could be formed; and two-thirds of Indian corn with one-third of flour yielded an excellent loaf.

Dr. Golding Bird, while he bore testimony to the industry and patient investigation which characterized the researches of Dr. Thomson, could not agree in the conclusions at which he had arrived with reference to the dietary of persons in health and disease. It should be recollected, that previous to the labours of Liebig, the proportion of carbon which existed in various articles of food was thought to offer a fair indication of their nutritive power. That distinguished philosopher, however, had shown the fallacy of such a view, and had proved that, with the exception simply of the fatty tissues, every structure in the body was supported, and its waste supplied, by the nitrogenized elements of food. Dr. Thomson's paper had the merit of satisfactorily showing that animals could not be well nourished on nitrogenized or carbonized food by itself, but that there should be a certain proportion between the two, so that the richly-nitrogenized food might make up the waste of tissue, whilst the richly-carbonized would become a source of animal heat. He (Dr. Bird) did not believe that the composition of the food of the infant animal, or milk, gave us any sure indication, in our selection of nutriment for the adult; for

milk, nearly identical in eomposition, afforded nourishment to the the infant cat, sheep, and porpoise; whilst, in after-life, how remarkably different was the food of these different animals. Admitting that the tables of Dr. Thomson were correct, it would seem that the most nutritious food for infants and invalids, next to milk, would be beans and peas. This could not be followed out practically. White bread, according to the tables, was below beans and peas in nutritious power; but, trusting to the same authority, a portion of eheese added to it would, theoretically, raise it high in the seale of nutriments: yet who would carry out this view practieally? He admitted that infants might be literally starved from eating arrow-root, in eonsequenee of their supply of nitrogen being cut off; he yet believed that in these inquiries sometimes more than the mere chemical principles must be taken into the account in our determination of the diet we shall select for our patients. The easc with whieh different kinds of food were digested, and the vital endowments of the stomach, must not be overlooked.

Dr. Babington observed that the last speaker had gone much too far in his criticism, as every one must be aware that animal food and some other kinds of condensed nitrogenous matter might not be suited to children, from their difficulty of digestion. He considered the paper a very valuable one, and deserving of the thanks of the society.

[Although one of the speakers stated that there was not much novelty in the views brougght before the society by Dr. Thomson, we confess that to us. and to all with whom we have conversed on the subject, many of the facts and deductions are quite original. The table, which exhibited an inerease in the butter of the milk of the eow, in proportion to the augmentation of nitrogen in the food, is perfectly new, and apparently at variance with the theories of Liebig, who derives the butter from the starchy constituents of the food; but which Dr. Thomson reeonciled, by eonsidering the food in these cases to be so formed as to restore the proper equilibrium of the system of the animal. This view also leads to the novel suggestion, that by experiment we should determine the amount of matter removed from the system under different circumstances of rest and exercise, and that a true plan of dieting should be founded on such knowledge, and should not de left to mere instinct. We believe with Dr. Thomson, that on this eonsideration depend the true laws of dieting,—a subject of so much the greater interest in an artificial state of society, where the food is too frequently eoncocted to minister to the palate instead of to the condition of the waste of the system. The relation which Dr. Thomson instituted between the food serving for nutrition and that for the mere production of animal heat was very striking, and we have certainly never seen the subjeet so treated before. This analysis of arrow-root, tapioea, and sago, was also quite new, and demonstrated the impropriety of employing them as food for children. The

table, already alluded to, showed, contrary to the statement of one of the speakers, that arrow-root could not produce fat, and that such views are imaginary. The table containing the amount of albuminous matter in various kinds of vegetable food, was highly important. The higher position occupied by Scottish oats and barley-meal over English flour is a new and startling statement. We concur in the concluding observation in Dr. Thomson's paper, that his remarks tend towards an extensive field of experiment and deduction, of a highly practical nature, and may hssist in indicating the direction in which the physician should pursue his iuquiries when studying the laws by which the animal system is to be retained in a state of health.—*Reporter of the Gazette.*]

Medical Gazette, May 29, 1846, *p.* 965.

39.—*On Cholera, its Natvre and Treatment.*—By Charles Clark, Esq., Kensington.—Cholera seems to be produced by a deleterious condition of the atmosphere, of the exact nature or even origin of which we are utterly ignorant, as no appreciable difference can be detected between this air and any other, by any means with which we are at present acquainted. This air having entered the blood through the medium of the lungs, a morbid impression is directly produced; the constitution as it were immediately takes the alarm, and a number of violent actions are set up by the *vix medicatrix Naturæ* to expel the dangerous intruder: hence the severe vomiting and purging at the onset, terminating in the rice-water stools, and producing extreme irritation of the spinal nerves, as exhibited in cramps in the abdomen, lower extremities, &c. These rice-water stools, as they have been not inaptly designated. are evidently nothing more than the serous or albuminous portion of the blood exuded upon the surface of the intestines, combined with the epithelium of the mucous membrane. Granting this, then, (and I think it will scarcely be disputed,) the immense quantity of these evacuations sufficiently demenstrate what must be the condition of the blood still remaining in the vessels. Being thus deprived of the greatest part of its fluid contents, of course the crassamentum, or fibrinous portion, is left in a viscid and thickened condition, quite unfit for the various purposes of circulation; hence local engorgements ensue, especially in the system of the vena portæ; hence the blueness and lividity of the surface; the diminished heat of the body, the feeling of cold and numbness, the scanty nature of the bile, urine, perspiration, and other excretions, the hollow countenacne, the pinched nose, the sunken eye, the diminished respiration, feeble pulse, and death. If this sketch of the origin, progress, and termination of the disease be correct, what, then, should be our chief indications of treatment. Evidently, to moderate the morbid actions established by nature for the expulsion of the poison; and as this seems to be attempted by draining the blood of its fluid parts, a prime object should be, to replenish these as near as possible, and thus endeavour to maintain its natural fluidity and free circulation,

so as to support the system whilst the exhausting processes are going on. 2ndly. To prevent local engorgements, especially of the liver, vena portæ, and other portions of the abdominal circulation. 3rdly. To promote healthy secretion and allay pain, irritation, and spasm, &c.

Now the question remains, how are these various objects to be most effectually accomplished? To fulfil the latter part of the first indication, I would propose that a drink should be prepared, resembling as near as possible the composition of the serum, with albumen, muriate and carbonate of soda, &c., only, of course, in a more dilute state, and that the patient should partake of this as freely as possible, in fact, *ad libitum.* Effervescing salines might also be given occasionally. To restrain inordinate action, promote healthy secretion of bile and perspiration, and at thesame time allay irritation, spasm, and pain, nothing, I think, will be found more effectual than a combination of calomel and Dover's powder, administered freely, until the violence of the vomiting and purging is restrained, and bilious evacuations are obtained; taking care, however, that the quantity of opium given be not such as to prove injurious to the brain, or to excite a fever of reaction—a result which I believe frequently occurred during the last epidemic, with the calomel and opium treatment, and often carried off the patient after the cholera itself had been surmounted. Should local engorgement ensue and continue, notwithstanding these means, bleeding might then be resorted to, regulating the quantity of blood abstracted by the extent of the congestion and constitution of the patient; but it is upon this principle alone, in my opinion, that blood should be drawn in cholera, for, as we cannot purify a well of impure water by withdrawing a bucketful, neither can we change the whole mass of blood by removing a portion. If it were possible to abstract the whole or even the greatest part of the vitiated blood in these diseases, and replace it with healthy blood, adapted to the constitution of the patient, by transfusion or otherwise, I believe this would be the most successful practice of all; but, unfortunately, this is a task rather beyond our reach at present. To support the tone and energy of the nervous system, and promote animal heat, towards the close, and in some cases during the progress of the disease, stimulants, as wine, brandy, ammonia, &c., may be employed as auxiliaries, but only as auxiliaries; for I cannot understand upon what correct pathological principle they are made the sheet-anchor of the treatment, as some have advised. Nutritious diet, in proportion to the powers of digestion, should of course be attended to, and warm baths will be found serviceable.]

Lancet, June 13, 1846, *p.* 651.

40.—*On the Antidotal Treatment of Epidemic Cholera.*—By Dr. John Parkin.—[Some years ago, Dr. Parkin published his work on the treatment of cholera, since which time his views have been confirmed by the report of the Commission appointed by the Royal Academy of Medicine and Surgery, in Barcelona, with respect to

the treatment adopted by him during the prevalence of cholera in Spain. The commissioners observe, that, under the ordinary method of treatment—]

Nearly all the patients that had the disease at all severely perished, but that in cases of true cholera, even when the stage of collapse has supervened, the employment of carbonic acid gas produces wonderful effects. This treatment, they add, should be continued even in the state of complete and confirmed collapse, on account of its being the most efficacious and direct of all the plans that have been tried; and it is certain that, if it is used at the commencement, and the patients do not neglect to call the medical attendant after the disease has once manifested itself, there will be few who come to this state of atrophy and wretchedness.

[Dr. Parkin considers that carbonic acid gas is not open to the objections against simple carbon. He observes:]

When this remedy has been given, in those cases in which symptoms denoting derangement of the stomach are alone present, the effect of the medicine, according to my experience, has been to relieve the symptoms almost immediately. The nausea is speedily dissipated, the giddiness and faintness disappear, and the sense of burning and heat at the pit of the stomach is no longer felt or complained of, after two or three doses of the medicine. But the most remarkable circumstance is that which has attended the employmen of the same agent during the stage of diarrhœa—that relaxation of the bowels which is, almost always, the precursor of the severe form of cholera. Of the numerous cases in which I have given the carbonic acid at this period, it has invariably arrested, with some few exceptions to be explained hereafter, the morbid process, at a longer period, it is true, but still at a regular and certain interval.

Neither is the remedy less useful in what has been termed the evacuant or second stage of the disease, characterised by rice-water evacuations. In these cases, the irritability of the stomach is speedily relieved, and the vomiting ceases soon after the first, or, at most, the second dose of the medicine; while the relaxation of the bowels is also arrested with as great, if not greater, celerity than in the former instance.

But it is in the commencement of collapse that the efficacy of the remedy is best observed, and its *modus operandi* the most apparent. Not only is the vomiting immediately arrested, as in the previous stage, but the thirst, heat, and burning sensation at the pit of the stomach, disappear almost as speedily. During a repetition of the medicine, the spasms, which generally prevail at this period, are effectually relieved; the evacuations from the bowels become less abundant and less frequent; the depression of the system is removed; and the other symptoms characteristic of this stage vanish by degrees, so as frequently to leave the patient comparatively free from all ailment, after the administration of only

five or six doses of medicine. These remarkable and hitherto unexampled circumstances have frequently excited the attention and admiration of others, and are dwelt on, with peculiar emphasis, by Drs. Ardevol and Pascual, in the Reports which are added in the Appendix. It now only remains to ascertain the influence which the remedy exerts in the state of confirmed collapse. When it has not been previously administered its employment at this period is not constantly followed by any sensible effect or beneficial result. This, however, is only what might and what ought to have been expected from the employment of such a remedy at such a period; there being several causes in operation, either of which would, it is probable, satisfactorily account for the failure observed in this instance.

[Dr. Parkin considers this remedy useful even in the last stage; the following is his mode of preparing it:]

Thirty grains of the powdered carbonate, bicarbonate, or, as it is now termed, sesguicarbonate of soda, or potash, should be put into a large tumbler, with a wine glassful of water; to which is to be added a dessert spoonful of any simple syrup, mixing the two ingredients together so as to form a homogeneous mass, Then take twenty grains of citric, or tartaric, acid, and dissolve it in half a wine glassful of water, when the solution is to be poured on the contents of the tumbler, and the mixture drank off immediately, before the effervescence has subsided. If more convenient, or when to be obtained, lemon juice may be substituted for the citric. or tartaric acid, in the proportion of two tablespoonfuls of lemon juice to the same quantity (thirty grains) of soda or potash. As the object in giving the syrup is to render the mixture more tenacious, and to prevent the gas escaping so rapidly as would otherwise be the case, it is not necessary, when the lemon juice is used, to add any syrup.

Medical Gazette, Aug. 21, 1846, *p.* 339.

41.—*Observations on Cholera.*—By J. G. French, Esq., Surgeon St. James's Infirmary.—[The most evident lesion in cholera Mr. French considers to be "loss of power in the heart." He says it explains the diarrhœa, the vomiting, the cramps, the suppression of bile and urine, and even the diuresis which Dr. Graves has observed in some cases of cholera. He observes:]

That the action of the heart is really greatly depressed in cholera is admitted by all who have attended to the subject; and if the removal of the cause of this depression be out of our power, what are the most favourable compensating physiological conditions for the patient? The blood is a fluid intended by nature to be constantly circulated, and the exils of congestion and a true asphyxia would soon result from a loss of power of the heart, if no compensating means existed in the system for remedying this evil when it occurs in a greater or less degree.

If the blood is to remain stagnant in the vessels, the less fluid it is in its consistence the better. If the blood, therefore, cannot be circulated, the best thing that can happen is that the serous or fluid portion of it should be carried away in proportion to the degree of its stagnation.

This, then, appears to me to be the explanation of the profuse discharges which take place in cholera; this is the reason for the alteration in the relative constituents of the blood.

We admire the ingenious contrivance of the governor of a steam-engine—the valve of which opens exactly in proportion to the exigencies of the machine, and we should not expect to find less perfect contrivances in the animal economy. The degree to which these symptoms extend is exactly in proportion to the force with which the heart is controlled. The attack may be so severe that the patient dies without discharges at all, or it may be so mild that the diuresis (observed by Dr. Graves) may be sufficient for the relief of the patient. If, however, there be a state of collapse, in which the pulse is scarcely or not at all perceptible, the system remarkably drained of its fluids, and the blood in that tar-like condition which is so well-known to exist in this disease, then, if there be thirst, and the patient drink freely of cold water, a rational expectation may be formed that the circulation of the blood will be gradually restored to its natural vigour in the following manner:—1stly, By the vigorous muscular pressure of *cramps*, which propels the tarry blood towards the heart. 2ndly, By absorption of water into the blood-vessels, which has a direct tendency to restore the blood to its natural or liquid condition. 3rdly, By nausea, which produces a general relaxation of the system; hence diminishing the obstruction to the passage of the blood in the vessels. 4thly. By retching or vomiting, which mechanically assists in driving forward the blood in the congested vessels.

These views were published by the writer in 1832, and more fully in 1835, but it was not until 1842 that he published a paper on the subject of the cramps in cholera. As the surgeon to a large metropolitan parish, he cannot be supposed to be without opportunities of rendering himself familiar with the complaint of which he writes. But it was in 1832, when, as surgeon to a parochial cholera hospital, his whole time and attention were devoted to the study of the disease, that his views and opinions were principally formed. Subsequent experience based on the results of treatment has convinced him of their truth.

Medical Gazette, Aug. 21, 1846, *p.* 328.

42.—*Treatment of Cholera.*—By Ollapod, H.C.S., Madras.—On first visiting a patient in this disease, I give, calomel, ten grains; rhubarb, ten grains; compound powder of aloes, ten grains; mixed and formed into a bolus. This I follow up with ten or fifteen minims of liquor ammonia, mixed in a little cold water, and I repeat this dose in half an hour, if rejected; otherwise, I give a second, and even a third

dose. To quell the stomach's irritability, effervescing draughts of carbonate of soda and tartaric acid, in small and repeated doses, are given, and soda water is prescribed to allay the intolerable thirst. The liquor ammoniæ, I at the same time use undiluted, externally, over the chest, abdomen, and upper and lower extremities, as a rubefacient, while I pay attention to the head by cold applications of water or vinegar and water.

In the generality of cases that have come under my notice for the last quarter of a century, the brain would appear to share the greatest burden of the disease, and hence I have been induced to adopt the remedies I have just enumerated. The after treatment is simple enough—namely, the exhibiting a laxative after the second or third day, and tonics for a week afterwards.

Opium in any shape, given in cholera,—too universally resorted to,—I have remarked, tends to embarrass the cerebral functions, causing pervigilation, and, by consequence, commotion of the *vis vitæ*. If spasms be present, I am in the habit of stretching the lower extremities, by laying hold of the foot, as if in the act of taking off a boot, and bending the toes and forepart of the foot towards the patient, as he lies down, and the heel I draw towards towards myself. This must be done gently and repeatedly. I also employ shampooing.

Lancet, Oct. 10, 1846, *p.* 410.

43.—*Treatment of Diarrhœa.*—By George Smyth, M.D.—[Dr. G. Smyth, of the Charlotte-street School of Medicine, has directed the attention of the Profession to the use of acetate of lead in that obstinate diarrhœa, which sometimes accompanies uterine phlebitis and peritonitis even after opium, chalk, or catechu have failed. He considers the diarrhœa a species of sympathetic irritation (uninflammatory), and may be subdued in a very prompt manner *even after the usual remedies*; that on the second day of its administration, the amendment in his case, was not only perceptible but very considerable: its modus medendi he attributes to its sedative and astringent (we suppose sedative to the nervous and muscular system, and astringent to the mucous lining of the canal,) properties; and he considers it a proper subject of enquiry as to which of these properties the amendment was principally to be attributed, to one or to both. Dr. Smyth thinks its sedative property the most important, because by it the undue peristaltic action was arrested. Dr. S. also appeals to its influence when given alone in many lingering and obstinate cases of diarrhœa and dysentery, in proof of the efficacy of the salt.]

Judging from analogy, there appears to be little doubt of this. It has been found, that a solution of acetate of lead is capable of almost immediately stopping the vermicular movement of the intestines, if brought in contact with their coats; and it is well known that it possesses also the power of allaying the pain of inflammation

when directly applied to an inflamed surface. Indeed, the quietude and immediate relief from suffering, which I have occasionally observed to follow its application in some painful affections, especially of the mammæ, occurring in women about the middle period of life have often astonished me. Even the lancinating and burning pain of carcinoma is sometimes greatly mitigated by the steady application of the diluted solution of diacetate of lead of the Pharmacopœia.* These effects, then, it must be admitted, are evidently the result of a sedative action exerted directly on the nerves of the parts to which the remedy is applied. But all the preparations of lead appear to have a peculiar affinity for, and to act in some measure specially on, the nervous system, whether they be applied externally or taken internally. Of this we have a somewhat conclusive illustration, in the giddiness, coma, apoplexy, and that peculiar paralytic affection of the voluntary muscles (lead palsy) to which those who have been for some time exposed to the influence of lead are liable. It is the opinion, even of a great authority, that colica pictonum is a nervous disease, (a neurosis,) the spinal marow and the abdominal plexuses of the great sympathetic appearing to be the peculiar seat of lesion; the constipation seeming to depend either on the abolition of the contractile motion of the intestines, or on the suspension of the secretion of the intestinal mucus.

It is undoubtedly, then, this sedative, united with the astringent property of the acetate of lead, which renders it so very serviceable both as an external and internal remedy in the treatment of many special diseases. But in none, perhaps, are its beneficial effects as an internal agent more manifest than in the chronic form of diarrhœa and dysentery, for the cure of which it is decidedly far superior to any other remedy that has yet been recommended. In them it appears to quiet the intestinal action and allay the pain by blunting the insensibility of the mucous membrane, whilst, at the same time, by constringing the extreme vessels, it checks excessive secretion and thus stops the discharges.

Lancet, Sept. 5, 1846, p. 265.

44.—*Ergot of Rye in Dysentery.*—By F. S. Gervis, Esq., Tiverton.—[After using the ordinary remedies in the treatment of a case of dysentery, without any benefit to his patient, Mr. Gervis resolved upon giving the ergot of rye, in conjunction with tinct. of iron, which he did, as follows:—]

Battley's solution of secale, one drachm; tincture of sesquichloride of ron, one drachm; water, six ounces. Mix, and give a

* The officinal preparation is decidedly much too weak. For painful affections of the breasts, it should be made at least double or treble the strength of that ordered by the colleges; and it is likewise of great advantage to apply it a little warm. If these precautions be attended to, it will be found much more effectual as a sedative.

quarter part every four hours. After the first mixture had been taken, I found a visible improvement had taken place. The ergot had produced slight pains in the bowels; but after she had taken three of the above mixtures, the bloody discharge and other symptoms had entirely ceased. There was no return of the complaint after this period: and considering the effect produced by the ergot to have been so decided, I have thought it desirable to ask the favour of the insertion of this case in the *Lancet*. The properties of ergot are invaluable in cases of hæmorrhage arising in other parts of the body; and in a severe case I lately had under my care, in a young man, of hæmorrhage from the urethra, which continued for days, I found that the ergot with the steel mixture succeeded most effectually.

Lancet, July 11, 1846, *p.* 39.

45.—*On the Presence of Confervæ in some Exudative Masses passed by the Bowels.*—By Dr. J. H. Bennett.—[Dr. Bennett exhibited fragments of exudative masses in laminæ, which had been passed *per anum* by a woman who applied at the Royal Dispensary. She stated that, on the previous day she felt soreness and pain in the abdomen, and having been for some days constipated, she had been induced to take castor oil. After the operation of the medicine, she observed in the vessel several fragments of what appeared to her to resemble calves' leather which had been steeped in water. Being alarmed, she brought them with her to the Dispensary. These fragments varied in size; the largest was of a square form, about three inches broad, three-and-a-half long, and one-eighth of an inch in thickness. It was of a straw-yellow colour, perfectly smooth on both sides, soft and easily torn, presenting a fibrous structure. A minute portion, viewed with a power of 220 diameters, linear, was seen to be made up of a mesh work of non-ramified filaments, varying in diameter from one 500th to to one 200th of a millimetre, marked here and there irregularly by transverse striæ. On increasing the magnifying power to 500 diameters linear, these transverse striæ were seen to be the septa of jointed tubes, placed at irregular distances from each other. Numerous oval and rounded granules (probably sporules) were scattered amongst the tubes, their diameters varying from the one 500th to one 300th of a millimetre in diameter.

Dr. Bennett stated that cryptogamic vegetations had been observed in mucous membranes by Langenbeck, Klenke, Vogel, and other histologists. This was the first time he had himself seen such a structure from the mucous membrane of human intestines, and, they differ materially from those represented by Vogel (*Scones Histologiæ Pathologicæ, Tab.* xxi.)

Monthly Journal of Medical Science, Aug. 1846, *p.* 158.

46.—*On the Treatment of Hæmaturia.*—By Dr. Fife, Newcastle.—[As there are various causes giving rise to hæmaturia, so must its treatment be varied correspondingly. No general plan can be adopted, and in this, as in all other cases, the general condition must be particularly attended to. Dr. Fife observes:]

General blood-letting, according to my experience, is seldom requisite, as in those cases where the circulation was most active, other means, followed by less permanent reduction of the powers of the system, invariably sufficed to subdue the excitement; where, however, the patient is young, vigorous, and plethoric, much time and suffering will doubtless be saved by recourse to it. The topical abstraction of blood, by cupping over the loins, where the kidneys are affected, is most beneficial; and where the bladder is similarly engaged, leeches to the groins, or perineum, were equally useful. In renal cases, dependent on, or connected with, sub-acute inflammation, counter-irritation, by means of the antimonial ointment, proved of great service. Blisters are to be avoided. Where the pain seemed connected with calculi of the kidney, friction with morphia in the form of ointment, or the belladonna in that of plaster, applied over the loins, materially relieved it. In cases where the circulation was increased, and where sickness was not urgent, the tartrate of antimony was given with advantage, and where, by reason of the presence of sickness and vomiting, it appeared contra-indicated, the digitalis was advantageously substituted for it.

As a means of arresting the hœmorrhage, the acetate of lead and sulphate of alum both claim confidence, although neither of these medicines is free from very decided objections which may, however, be much diminished by their combination with other medicines; the acetate of lead, for example, should be combined with opium, and the sulphate of alum with hyoscyamus. When so combined, the constipating or paralysing effect of the one is in a great measure counteracted, and the constipating and irritating tendency of the other, as certainly lessened. As a means of relieving pain, hyoscyamus and conium are decidedly preferable to the preparations of opium, and when given in sufficient doses, and at proper intervals, hardly less to be relied on. Where the pain is connected with the bladder, and that viscus is in a highly irritable state, suppositories are most efficacious, and free from the objection which attaches to the liberal employment of anodynes by the mouth. The remedy against the discharge of blood in which I have most confidence, and which has in no case produced any unpleasant effect, is the secale cornutum. I have generally given it in doses of from ten to fifteen grains, in combination with the carbonate of soda, or potass, and at intervals of from four to six hours, according to the urgency of the case. Where it at all disorders the stomach, as it rarely does, this tendency may be diminished by the addition of a few grains of ginger, or compound cinnamon powder. Of the alkalies, the liquor potassæ is the most convenient, being readily combined with the tincture of digitalis,

where vascular excitement calls for it. Of the acids, the sulphuric, hydrochloric, and nitric, may all be given with benefit, as all of them seem to have the effect of diminishing the hæmorrhage, the selection of any particular acid being regulated by the circumstances attendant on individual cases. The vegetable acids I have not used *medicinally*, although I have allowed the use of lemonade, where patients desired it, and where no contra-indication existed. In decidedly chronic cases, both turpentine and copaiba have proved useful, appearing not only to diminish the tendency to hæmorrhage, but also to act most beneficially on the mucous membrane, especially by lessening the discharge of mucus, which is necessarily attended with considerable waste of the powers of the system. The pareira brava and uva ursi have also been used with more or less advantage. The preparations of iron in combination with quinine and iodide of potassium, are useful in improving the general health and tone of the system; the hydrochlorate of iron has been supposed to restrain the hæmorrhage, but how far it really possesses this power, I do not feel competent to pronounce any opinion. Cold, in the form of enemata, and also externally applied, has been highly recommended. In the first form I have had no experience of its effects; but in the external application of cold cloths to the perineum, and over the pubes, when the hæmorrhage is from the bladder, I have some confidence, but only as secondary, or auxiliary to other and more decided measures. Such is a very brief outline of the treatment of this disease, which my own experience has taught me to look upon as most efficacious, and which, when duly modified according to circumstances, will be found generally applicable.

Provincial Medical and Surgical Journal, May 20, 1846, *p.* 225.

47.—*Remarks on the Treatment of Peritonitis.*—By Dr. Corrigan, Dublin.—[The constipation which occurs in cases of peritonitis should never be treated by giving acrid purgatives. Dr. Corrigan observes:]

Relieve the serous inflammation, and permit the peristaltic action of the intestines to return, but do not force it; look upon the constipation as effect, not as cause. Taking the case in another point of view, of what harm is the presence of pasty fæcal matter in the intestine productive? We know it to be unirritating in its effects in the bowels of the child; surely it cannot, then, be the cause of such mighty mischief as to require removal by the administration of croton oil and such other like drastic purgatives. Let the first object be, therefore, to look upon inflammation as the cause of the constipation in peritonitis, and to endeavour to remove it by the application of leeches, by blistering, and putting your patient under the influence of mercury; and recollect what I told you of the danger of a relapse from the use of stimulants of any kind. While we lay down these principles as our guide in treatment, it is not necessary—if I may use a vulgar phrase—to ride a hobby.

Where accumulations occur in the colon, their removal may be advantageously obtained by the introduction once or twice of the long tube, as recommended by Dr. O'Beirne; but it is worse than useless to repeat this process after, and so attempt to force a discharge of the contents of the intestine. Suppose a man labouring under pleurisy opened, what would you think of the person who would force the intercostal muscles of the affected side into action, and cause a rubbing together of the two sides of the inflamed membrane? Again, fancy the abdomen of a patient, affected with peritontis, exposed to your view, with the cœcum and small intestines intensely inflamed, and that while nature was doing her best to keep these parts in a state of rest, croton oil was thrown into the intestinal tube by one inlet and stimulant injections through another. Surely such would be an error of practice perceptible to the commonest capacity. Pay no attention, then, to the unirritating pasty fæcal matter lying in the intestines beyond the injection recommended above, but direct all your faculties to the subduing the existing inflammation by leeches, bleeding, blistering, and the administration of mercury.

Medical Times, May 9, 1846, *p.* 99.

48.—*Treatment of Aphthæ by Sulphuric Acid.*—Professor Lippich, of Padua, has recommended the following liniment in the treatment of aphthæ;—Honey, 15 parts; diluted sulphuric acid, 1 part by weight. The ulcerated surfaces should be occasionally brushed over with this liniment by means of a camel's-hair pencil. The proportion of sulphuric acid may be increased if the case is obstinate.—*Gaz. Méd.*

Medical Gazette, July 3, 1846, *p.* 43.

49.—*On the Existence of Beetles in the Human Stomach.*—By Dr. Pickells, Cork.—[This is the case of a young woman, Mary Riordon, who discharged from the stomach, during several years, insects of different sorts, and in different stages of their existence, especially larvæ of the species of beetle denominated *blaps mortisaga.* The truth of the ejection of these insects is well and respectably authenticated, and leaves no doubt that they were developed in the stomach of the patient.

Dr. Pickells, who relates the case, says, "After having been about ten minutes in the room, the emetic which I had seen given to her began to act. She threw up the liquid (water) she had taken with it, and *seven* larvæ of the *blaps mortisaga.* She was at this time sitting on a chair. She now swooned and fell on the floor, becoming stiff and motionless, her arms lying inflexible by her side, and her hands clenched.]

The patient has since died; having during the last twelve years of her life been confined to her bed by paraplegia. For several years after the extirpation of the insects by, as stated in the his-

tory of the case, six ounce doses of the oil of turpentine, she continued, with the exception of the occasional return of convulsions, to enjoy tolerable health, her other distressing complaints, vomiting of blood, retention of urine, dropsical swellings, &c., having all disappeared. During this period she married a person named Duggan, a hatter by trade, who died in two or three years after in hospital in Dublin, whither he had gone, accompanied by her, to seek employment. The last time I saw her was in July, 1830, upon her return from Dublin, after the death of her husband. She was fat and ruddy, and appeared to be even strong. She then informed me of the particulars which have been mentioned, and in addition, that she had had two children, of whom one was still-born, the other, a seven month's child, who died in convulsions three hours after birth. In the course of the same year, or in the following, she became an inmate of the workhouse of this city, in which establishment she died. While in the workhouse, Dr. Edward Townsend, the physician of the establishment, supposing the convulsions were still kept up by a remnant of the insects, gave her, as he informed me, repeated doses of the oil of turpentine to test the case, but there was no return of the discharge of insects. The convulsions continued occasionally to recur to the last, exhibiting from the irritability of the cerebro-spinal system, as sometimes happens in the case of epileptics, the melancholy spectacle of one-half of the body being convulsed, while the other half was paralytic. Dr. Townsend has authorised me to say, that during the period of his long attendance on her, which was of several years, nothing transpired which could have led him to suppose that there had been ever any attempt at imposture. She died at an age of over forty.

Though the other beetle larvæ, and the dipterous larvæ, and the ascarides, discharged from time to time, as specified in the history of the case, contributed, doubtless, their share of irritation, the larva of the *Blaps mortisaga*, or *churchyard beetle*, were evidently the principal tormentors, the number of which she continued to discharge for three years and nearly three months, that is, until they were killed off by the enormous doses stated, of the oil of turpentine, may be said to be astounding. The average number discharged in each successive instance not diminishing, but, as appears from the registry, rather increasing, to the last, as if they continually repullulated, or, to use the patient's expression, "spawned." Until under the operation of large doses of the oil of turpentine, they passed down *per anum*, they were all, with few exceptions, extruded from the stomach, the discharge being commonly attended with vomiting of blood, and, in almost every instance, with convulsions. Many which I measured were an inch and half in length, and four lines and half in girth. I gave several to the itinerant proprietor of an oxy-hydrogen microscope, who visited this city, and afterwards other towns of the empire. Though sufficiently evident, without the aid of the microscope, the

terrible conformation of their jaws and feet was made fully apparent by means of this instrument. The fore-feet in perticular were tremendous.

In the *Cyclopœdia of Practical Medicine*, article Worms, a case is cited, published by Ariel, in the Scientific Transactions of Upsal, which, it will be perceived, bears considerable analogy to the present. "An immense number of insects, (all, it appears, beetles of various sorts), existed in the stomach for the long period of two years. They were at length, after a great number of unsuccessful experiments, expelled by a mixture of turpentine and linseed oil. Of various species of staphylinus, there were 263 in all. The larvæ were almost past counting, especially those of the *Tenebrio molitor* and the *carabus*."

Larvæ of insects are, there is reason to think, much oftener eliminated from the stomach and intestines, both by children and adults, than persons in general appear to be aware. The writer of the article entomology in Rees, goes the length of saying, "that certain kinds of these supposed worms, which infest the human race to the destruction of thousands, in the age of infancy, are really no other than the larvæ of insects." The present mayor of this city sent me, in January, 1830, a larva, which was proved to have been voided *per anum* the evening before, by a child, a male, of only three months old. It was alive. The evening before that on which it was voided, the child's mother thought it would have died from the violence of screaming and convulsions. The child, though healthy-looking, as I saw, could bear scarcely anything on his stomach since birth. The larva I ascertained, by the peculiar termination of the tail, to be that of the *blaps mortisaga*. From frequent observation, I may add, the larva of this insect is what naturalists term "amphisbænous,"—being enabled, by means of a foot in the tail, to walk with facility backwards as well as forwards.

In an early volume of the Philosophical Transactions a case is given by Mr. Jessop, of a girl of eight months old, who vomited three hexapodes, (larvæ, it would appear, of beetles), all very active and nimble.

The following, copied from the *Cumberland Packet*, is taken from the *Dublin Weekly Register*, July 26, 1823. "A woman, named Graham, about sixty, of Harrington, Cumberland, has, during more than twelve months, been afflicted with pains in the head. Lately, a considerable degree of rigidity took place in the muscles of the lower jaw, and continued nearly five weeks, when the patient, who is in the habit of taking snuff, having occasion to apply her handkerchief to her nose, from which, by expelling the air with considerable force, she discovered that she had voided a worm of about the size and appearance of a caterpillar. Its head was black, with two feelers; it had a great many feet. The patient, since discharging the worm, has continued perfectly free from headache. It is conjectured that the worm must have been

lodged in one of the sinuses of the frontal bone, communicating with the nose." Burserius, vol. i. p. 433, alludes to " the fever arising from the rending headache, occasioned by worms in the frontal sinus." A case of larvæ of the œstrus discharged from the maxillary sinus is given in Duncan's Annals of Medicine, vol. vi.

The following, copied from an American paper, is taken from the *Cork Southern Reporter*, July 29, 1828:—" *Astonishing fact.*— There died recently, in the town of New Stonington, Connecticut, a woman, aged about forty, who had been ill a long time, and complained of excessive pain in her heart. She left a request that the physician who attended her should examine the cause of her extreme suffering. The request was complied with, and in the centre of the heart there was found a *living worm*, an inch and quarter long, and of large size." The so-called worm was not improbably, as the worm so called in the Cumberland case, the larva of an insect; the received nomenclature including under the general name " worms," the larvæ of insects, though there is this marked difference, that worms undergo no changes. Worms have been found in the liver, spleen, &c.

Many instances might be adduced of diseases which had long resisted other treatment, having yielded to anthelmintics. In a paper published some years since in the ninth volume of the London Medico-Chirurgical Transactions, Dr. Rumsey gives various cases of lymphatic hæmorrhage and pulmonary affection which had been cured by an anthelmintic course, the lungs, as well as the brain having been found frequently to participate in the disease, and at times, the uterus; a profuse hæmorrhage having ensued from one or other organ, and been repeated, at uncertain intervals; in some instances without any suspicion of the real cause, and, consequently, with an erroneous practice. His plan was to strengthen the system generally, and then give anthelmintics. The late Surgeon Evans, of the Douglas Dispensary, near this city, informed me that he brought off from a patient, the wife of an artilleryman, who had laboured, upwards of eight years, under tic douloureux of the infra-orbital nerve, a tape worm, five yards and a half long, with a mixture of half an ounce of castor oil and half an ounce of oil of turpentine. The bowels had been constipated for several days previously. She continued to be much relieved after the discharge of the worm. She had been treated by medical men in Dublin, London, and other places, without benefit.

Edinbro' Medical and Surgical Journal, p. 384, *Oct.* 1846.

At the late meeting of the British Association at Southampton, Sir J. Richardson presented to the zoological section a specimen of the beetle known as *blaps mortisaga*, which is said to frequent graveyards, and to prey upon the dead. The specimen presented to the section had been found imbedded in some artificial concrete, where it must have been at least sixteen years, and yet, when the animal was brought to him, it was alive, and had lived six weeks

after. Mr. Spence said, that the ordinary duration of life of the blaps mortisaga was two or three years, and that it should exist so long was very remarkable. Dr. Darwin stated, that this insect was very tenacious of life. He once left one in a covered vessel without food for a year, without its being killed. He had also dropped hydrocyanic acid upon one, but it walked off quite unaffected by the poison.

The tenacity of life in this insect has been long noted. Many years ago, Mr. Henry Baker found that the blaps revived after being plunged repeatedly into spirits of wine. On one occasion, it was left a whole night in rectified spirit, but, notwithstanding this, it is stated to have revived, and lived three years. This tenacity of life has not been found to extend to the larvæ of the insect; some of them, kept by Mr. Pattison, speedily died. Hence it appears not difficult to explain a case reported by Dr. Pickells; in which these larvæ are said to have been expelled for a long period from the human stomach.

Medical Gazette, Oct. 9, 1846, *p.* 641.

URINARY ORGANS.

50.—ON THE URINE, BLOOD, AND DROPSICAL FLUID IN MORBUS BRIGHTII.

By Dr. Heller.

Heller has latterly been bestowing considerable attention to the pathological character of the animal fluids in Bright's disease, and has published a long paper containing the results of his researhes, which are in many points original, and on the whole offer a fair general account of what is at present known respecting the chemical and microscopic character of the blood, the urine, and the dropsical fluid in this disease. The following account contains the substance of his observations:—

The Urine.—In the progress of Bright's disease of the kidney, three stages may be usually recognized, in each of which the urine undergoes, in a more or less marked degree, certain peculiar changes. In the first stage, which is that of congestion, this fluid has a reddish colour, owing to the presence of blood or of its colouring matter; nevertheless, provided the quantity of blood is not large, the reaction of the fluid is acid. In the second or chronic stage of the disease, the urine is paler, having a clay-yellow or whey-like colour; whilst in the third stage, or that of dissolution (for it usually occurs just before death), the urine again contains blood, but is now highly alkaline, ammoniacal, and foul-smelling; during this stage the dropsical fluid also has a putrid odour. In each of the three stages, the secretion of urine is diminished; yet,

occasionally, an increase in the quantity secreted takes place, but this is of short duration. During the chronic stage the largest quantity is secreted, and the œdema also somewhat subsides; yet this is but temporary. In the first and last stages the quantity secreted is frequently very small, not exceeding a few ounces in the twenty-four hours, and generally contains a little blood.

In the first stage, the urine, which is red and turbid, deposits either a whitish sediment, leaving the fluid above clear and of a blood-red colour, owing to the hæmatosin dissolved in it, or blood-corpuscles appear also in the sediment and colour it; the presence of blood corpuscles is by no means essential to the red colour of the urine, which is often due to the presence of hæmatosine alone. The urine may be either acid, neutral, or even somewhat alkaline, and has a low specific gravity. In the second stage, the urine, which is of a light yellow colour, and turbid, deposits, in greater or less abundance, a brownish sediment, which shortly becomes paler in colour; the urine is at this time acid. Later on, the urine is frequently very pale, whey-like, and deposits a white, finely flocculent sediment. It becomes ammoniacal on standing, more rapidly than does the brown urine; its specific gravity is very low. In the last stage of the disease, the urine is of a deep red colour, contains more or less blood, whilst the sediment which it lets fall is red or reddish-brown, and contains many blood-corpuscles; it is either ammoniacal when voided, or rapidly becomes so when left at rest; its density is greater than in either of the preceding stages.

In studying the *microscopic* characters of the sediments which occur in the urine of this disease, the ingredients of which these sediments are composed may be divided into two classes, the first of which comprises those ingredients which are *constant*, being never absent in the urinary sediment in this disease; whilst the second contains the *occasional* ingredients, those, namely, which are only sometimes found in the sediment. The constant ingredients in the sediment are—First, *Pavement-epithelium:* this occurs always in large quantities, and is especially abundant at the commencement of the disease, during which a copious white sediment often forms in the urine, composed almost entirely of pavement-epithelium. The cells of which the epithelium is composed usually differ somewhat from the normal form, being roundish oval, frequently almost round, with very distinct nuclei; occasionally the natural or more rhombic form occurs. Frequently the cells are peculiarly altered, being of considerable size, and containing two or three large nuclei and many smaller granules: they are also often shapeless, presenting membranous colourless shreds. Secondly, *Epithelium from the tubes of Bellini:* this epithelium is usually present in the sediment in very small quantities at the commencement of the disease (during which period the pavement-epithelium is most abundant,) though it does sometimes occur in large quantities even in the first stage. This variety of epithelium appears in the form of longer or shorter colourless canals, which are provided with yellow or yellowish-

brown nuclei of various sizes. The more of these nuclei or granules there are, the darker do they appear. In examining a portion of sediment for this epithelium, much care is requisite, since the tubes frequently contain very few brown granules, especially at the commencement of the disease, and are, consequently, so fine and transparent that they are apt to be overlooked. Thirdly, *Albuminous fungi* (Albuminpilze): these formations occur in the urine of Bright's disease as well as in all other kinds of urine and of other fluids which contain albumen. They are often very distinct, especially if the urine is alkaline: they occur in heaps of various sizes, and appear, in their first formation, like strings of pearls. When highly magnified, their origin from cells is rendered manifest. When very abundant in the urine, this fluid has usually a strong musty odour. Similar formations are also found in the fæcal evacuations of typhus, and of other forms of diarrhœa. Fourthly, *Mucous globules:* these are always present in greater or less abundance. Fifthly, *Granule-cells*, or inflammation-globules: these are especially found in the stage of congestion; they are frequently of a light-brown colour, and often also colourless. Sixthly, *Fat-globules:* these are chiefly found in the chronic forms of the disease.

Of the *occasional* ingredients found in the urinary sediment in this disease are, first, *Crystals of uric acid:* they are mostly colourless, rhomboidal, or tubular; they occur even when the urine itself contains scarcely any traces of this acid. Secondly, *Urate of ammonia:* this occurs especially (though not exclusively) in the early stage of the disease. Thirdly, *Pus:* distinct pus-cells are sometimes seen in the latter stages of the disease; occasionally, also, in the earlier stages. Fourthly, *Blue crystals of uroglaucin:* they are seldom found in fresh voided urine, but frequently when the urine has stood for some time; they are often indistinctly crystalline, appearing like smooth, always blue, masses under the microscope. Fifthly, *Crystals of the ammonia-phosphate of magnesia:* these frequently occur when the urine is alkaline, and when it contains therefore, sixthly, *Carbonate of ammonia.*

In *reaction*, the urine in this disease is almost always acid. Inasmuch as this acidity is often very strong, even though no uric or hippuric acids are present in the urine, and as the more acid the urine is, the more uroxanthin does it contain. Heller believes that uroxanthin is the cause of the acidity. This is also probably the case in the urine of cholera. The presence of blood in the urine renders this fluid alkaline, though not if in small quantities only, such as is the case in the early stage of the disease; in the last stage the alkalinity is due also, in great measure, to the development of carbonate of ammonia.

The *specific gravity* of the urine in Bright' disease varies considerably, its amount depending on the degree to which the secretion of the urine is checked, on the quantity of albumen, and the quantity of blood present in it. In one case, Heller observed it to range from 1006 to 1048. In general the specific gravity is very

low in the chronic stages. In order to judge of the actual specific gravity of the urinary secretion, the albumen or blood which it may contain should be coagulated by heat, and removed by filtering, previous to using the urinometer.

Of the various substances found in the urine in Bright's disease, and requiring some description, may be mentioned, first, *uroxanthin*. This substance occurs in solution as a yellow colouring-matter, and, as before stated, appears to be, either alone or together with uric acid, the cause of the acidity of the urine. It is invariably present in large quantity in the urine of this disease; consequently, the albumen, when precipitated by nitric acid or by boiling, assumes a violet colour, either immediately when thrown down, or after standing a short time. From this precipitated albumen, uroglaucin and urhodin may be obtained. Uroxanthin is also deposited with the sediment of the urine, especially if this fluid is alkaline.

Albumen is always present in the urine of Bright's disease, though its quantity varies considerably, sometimes there being scarcely a trace, whilst, at other times, even in the same case, the quantity is so large, that almost the whole urine becomes solidified on the addition of nitric acid. Towards the end of the disease the quantity is usually very small. In addition to what has been already said in regard to the presence of *blood* in the urine, it may be further observed that during the whole course of the disease, the urine, however pale it may be, contains a small quantity of hæmatosine dissolved in it; this is proved by the more or less brown colour which the albumen of the fluid has, when coagulated by boiling, separated, and slightly dried. Sometimes the albumen, before being dried, has a bright rose-red tint. The hæmatosine may also be extracted from the coagulated and dried albumen by cooling it in alcohol, slightly acidulated in sulphuric acid. With regard to *urea*, this substance is always present in very small quantity in the urine in this disease; frequently there is but a trace of it. *Uric acid*, as was before said, occurs largely at the commencement of the disease, and exists either as such or as urate of ammonia. In the second and last stage it is usually either altogether absent, or is found in very trifling quantity. The *extractive matters* of the urine in this disease offer nothing peculiar. The *salts* are considerably diminished, both in their total number and in the quantities of each. This diminution is less marked at the commencement of the disease, but becomes more and more manifest as the disease progresses; frequently these ingredients are reduced to the smallest possible quantity. The chloride of sodium experiences the greatest diminution, being sometimes entirely absent. Next to this the earthy phosphates are most diminished, then the phosphate of soda, whilst the sulphates suffer very little diminution in their quantity.

The blood.—The general character of the blood in this disease may be briefly stated as follows:—Its density is considerably

diminished, owing to the abstraction of a large quantity of albumen, the salts and other solid ingredients remaining almost, if not entirely, unchanged. It has a normal aspect, coagulates perfectly, and separates into clot and serum; the former of which presents nothing unusual. The serum is pale-coloured, and, owing to its deficiency in albumen, has a specific gravity much below the natural standard; it contains urea in very large quantity; is quite free from bile-colouring matter. There is nothing abnormal in the quantity of fibrine or blood corpuscles. The chief peculiarities of the blood in this disease therefore are—its low specific gravity, dependent on a diminished quantity of albumen, together with the presence of a large quantity of urea. The presence of urea in the blood is not, however, to be regarded as a condition peculiar to Bright's disease alone, for in cholera, and in ischuria generally, where the excretion of urine appears suppressed, it has been found in the blood in large quantities.

The dropsical fluid.—When carefully collected, the fluid of renal dropsy appears usually as a whey-like or pale yellow fluid, having an alkaline reaction and a specific gravity: it always contains albumen, although in a very small quantity, by which circumstance it may be generally distinguished from the fluid of other forms of dropsy, in which the quantity of albumen is usually large. It never contains the colouring matter of bile, which, however, is frequently found very largely in other dropsical fluids, especially in the fluid of ascites. When allowed to remain at rest for some time, the fluid often lets fall a little fibrine, in the form of a loose, gelatinous coagulum. In the small quantity of albumen which the fluid in this form of dropsy possesses, is found an explanation of the foul odour which is frequently noticed in this fluid, and which is caused by sulphuretted and phosphuretted hydrogen, generated through decomposition of the albumen, which contains sulphur and phosphorus among its elementary ingredients. It was noticed by Heller, that the smaller the quantity of albumen which a fluid contains, the more easily does its decomposition take place, and the sooner, therefore, does the putrid odour commence. Consequently, in other dropsical fluids, the foul odour does not so readily occur, for these fluids always contain a concentrated solution of albumen. Soda-soap (natronseife), as well as nonsaponifiable fat, especially the former, always occur in the dropsical fluid in Bright's disease. These, with the epithelial particles, give to the fluid a milky opaline appearance. Salts invariably form essential ingredients in the dropsical fluid of this disease. Their total number is very large. Chloride of sodium is somewhat predominant over the rest; this salt occurs also very largely in the fluid of other forms of dropsy. The salts which are found in the dropsical fluid are, therefore, those which are wanting in the urine; instead of being retained in the blood when not secreted with the urine, they pass out with the fluid of dropsy.

It appears, therefore, from what has been said, that the contents

of the urine, of the blood, and of the dropsical fluid, in this disease, bear to each other a certain definite relation. For example, the water which ought to be discharged in the form of urine, passes out in the form of dropsical fluid, and is not retained in the blood; the albumen which is deficient in the blood, is found largely in the urine, scarcely at all in the dropsical fluid: whilst the salts which are wanting in the urine are found entirely in the dropsical fluid, none of those which ought to have been secreted with the urine being retained in the blood.

Medical Gazette, Aug, 21, 1846, *p.* 317.

51.—*On the Changes induced in the Kidney by Bright's Disease.*—By Joseph Toynbee. Esq.—[At a recent meeting of the Medical and Chirurgical Society, Mr. Toynbee read a paper containing the result of his researches into the nature of Bright's disease of the kidney: he adheres to the opinion advanced by Dr. Bright, that the changes induced in the organ are preceded by congestion. He showed that the arteries first become diseased, and that the tubuli, veins, and parenchyma, follow. Dr. Williams expressed his dissent from Mr. Toynbee's concurrence with Dr. Johnson's views on the pathology of this disease:]

He (Dr. Williams) not only did not consider that fatty deposit in the kidney to be the first stage of Bright's disease, but he could not admit that it is an essential part of the disease at all. Further, he would state as the result of careful microscopic investigation by Dr. Richard Quain, confirmed by his own examination of numerous specimens, that the deposit in this disease is not confined to the uriniferous tubes, but appears on their exterior in the interstices between the vessels. This corresponds with the views which he had long held and published on the subject, that the deposit consists of albuminous matter like that effused from vessels affected with inflammation or a certain amount of congestion, and may, like such fibrinous effusions, present considerable varieties in its mechanical and chemical condition. This deposit mostly consists of granular matter; but the granules in one case are contained in cells, resembling exudation corpuscles rather then the proper epithelium cells of the uriniferous tubes, and are seen without the tubes as well as within them, and therefore cannot be a multiplication of these cells. The distinction may be further seen on contrasting a healthy kidney with one diseased; but here he begged to observe, that it is a rare thing to find a perfectly healthy kidney in the dead body in this metropolis. A change of structure, the extreme of which constitutes Bright's disease, is in slight degrees exhibited in a large majority of the kidneys of adults examined in hospitals. But if we contrast the healthy kidney of a young subject, we see in its beautifully regular, oval, nucleated epithelial cells, an appearance quite different from the large round granular cells which stuff the tubes, and block up the parenchyma in the early stages of Bright's disease. It is this stuffing and obstructing

that interrupts the function of the kidney, and eventually alters its structure. In the more advanced forms of the disease, the granular matter is seen without its cell walls, and sometimes interwoven with filamentous tissue. The facts which he (Dr. Williams) would adduce against the notion, that the deposit is of a fatty nature, are derived from its optical and its chemical properties. Although, occasionally, fat globules in considerable numbers may be seen in it, this is an exception rather than the rule. The granular matter, in some instances, is far less refractive than oil globules are: such, for example, as are commonly seen in the cells of the liver, as may be made obvious by comparing them in the same field. The chemical reaction of the matter also differs from that of fat, for the granules resist the action of caustic potash and of æther, separate or combined, whereas acetic acid partially dissolves them, a fact mentioned in the abstract of Mr. Busk's paper read to-night. He (Dr. Williams) was aware that Mr. Gulliver and others entertained the opinion that the molecular base of all nucleated cells is of a fatty nature, but that was a subject foreign to the present question, which was, whether or not the morbid deposit in Bright's disease is chiefly fat, like that in fatty degeneration of the liver. This question he would answer in the negative, and conclude, by the additional argument, that it is by no means low in specific gravity.

Medical Gazette, July 3, 1846, *p.* 33.

52.—*Case of Excessive Secretion of Earthy Phosphates by the Kidneys, with long continued Irritability of the Stomach.*—By Dr. Golding Bird.—[This case, recorded by Dr. Bird, is an excellent illustration of the relation existing between the function of the stomach and kidneys. The patient, in 1841, was attacked with vomiting, after dinner, with severe pain at the pit of the stomach, This vomiting occurred after every meal for six months, being always preceded by intense pain, which was relieved as soon as the stomach was emptied. The next eight months the vomiting became less frequent, only recurring after dinner. He was admitted into Guy's Hospital, on the 9th of April, 1845. The following was his condition at the time:]

On admission into Guy's Hospital, the lad's complexion was pale and bloodless, with a slightly icteric tint; he was emaciated to an extreme degree, his bones being barely covered; and his face bore no small resemblance to a fleshless skull, over which a skin of parchment had been tightly drawn. His general appearance was that of a person worn out by malignant disease, He chiefly complained of a burning, gnawing pain, at the scrobiculus cordis, and of a heavy pain across the loins. Tongue clean and red; pulse quick and sharp; skin dry and imperspirable. He vomits shortly after each meal, bringing up his food slightly changed, and, according to his own account, has never passed a single day, during four years, without vomiting once, and more frequently several

times. He complains of great thirst. The bowels act daily. Flatulent eructations frequent, and possessing the odour of stale fish. Urine copious, pale, loaded with crystals of the triple phosphate, not albuminous, alkaline; specific gravity 1-020, and evolving a disgusting fishy odour. The abdomen is distended with flatus; there is some tenderness at the scrobiculus cordis, where no tumor is perceptible. He had, shortly after his admission, vomited nearly four pints of thin, acid, yeast-like matter.

Misturæ magnesiæ, ℥j. ter in die. Milk diet.

April 11th.—Has vomited daily after dinner, the vomited matter presenting the same yeast-like appearance. Urine has an ammoniacal odour, and deposited crystals of phosphates.

℞. Strychniæ, gr. j. Acidi nitrici dil, ʒj. Aquæ ℥xij. Solve et sumat æges, ft. ℥j. ter in die.

He was strictly confined to milk diet, consisting of 18 ounces of bread, an ounce of butter, and two pints of milk daily, and ordered to take the medicine fifteen minutes before each meal.

[On the 16th, a liniment of croton oil was applied to the scrob. cord., after which he ceased to vomit; the pain also ceased, the urine became neutral, and contained but few phosphatic crystals. On the 22nd, the urine was free from deposit, and the skin acted freely. Dr. Bird adds:]

From the date of this report the same treatment was continued and the patient steadily improved; the vomiting ceased, the urine became acid, he recovered his flesh—indeed became decidedly fat: it was scarcely possible to recognise in him the wretched skeleton admitted but a month before. On May 19th, he suffered a slight relapse both of pain and vomiting, following a severe paroxysm of pains in the region of the left kidney, and relieved by a copious discharge of urine loaded with triple phosphate, and rapidly becoming alkaline and fœtid. He appeared to recover from this in a few hours, and left the hospital strong enough to attend to his work, and apparently well; having continued the strychnia during six weeks, and taken altogether about eleven grains of that alkaloid.

This case presents several points worthy of attention, both in connection with its diagnosis and treatment. The general history of this lad, his emaciated and care-worn appearance, would have induced me to have referred the origin of the extraordinary irritable condition of stomach to some organic disease of that viscus, and had an epigastric tumor been detected, there would, notwithstanding the youth of the patient, have been but little to prevent the diagnosis of pyloric disease. In the latter disease, as well as in such cases of ulceration of the mucous membrane of the stomach which I have had an opportunity of examining, the urine has never presented the appearance of that secreted by the patient under consideration. Indeed, so far from being remarkably copious, the

secretion has been generally found to be rather scanty, and instead of being pale and whey-like, has possessed a deep brown or red tint, and in the majority of cases has deposited urate of ammonia, more or less deeply stained with purpurine.

The connection of alkaline urine with blows or other mechanical injuries inflicted upon the spine is now generally recognised, and every one is familiar with the almost constant presence of phosphatic deposits as the result. But I am not aware of attention having been previously directed to the connection of this condition of urine, and attending diuresis, with intense irritability of stomach, or, at all events, of their standing to each other in the relation of cause and effect.

I may venture to express my own conviction of the etiology of the case in a few words. A lad of delicate frame is engaged in laborious occupations, often far beyond his strength for years, during that part of life which is most susceptible to marked influences; functional derangement of the spinal marrow ensues, marked by the pain across the loins, and altered state of the urine. The stomach thus rendered irritable scarcely retains food, emaciation results, the patient is unable to obtain a sufficient supply through the medium of the stomach for the sustenance and reparation, much less for the increase of tissue. The necessary result is, his stunted growth, extreme emaciation, and the excretion of an unhealthy fluid from the kidneys, the necessary result of the impaired condition of the vital chemistry of these organs, itself an almost constant, although often transitory, result of the slightest mechanical injury to the spine.

I may remark, that I several times made a careful analysis of the urine with the especial view of detecting hippuric acid, but in no instance was I successful in detecting it, This examination was made in consequence of some general resemblance existing between the character of the urine in this case and some published on the continent, in which the presence of the acid alluded to was remarkable.

The strychnia was administered in consequence of its well-known influence upon the functions of the spinal marrow, and believing that where alkaline urine is really secreted as such by the kidneys, independently, of course, of the character of the ingesta, there is always some lesions of that important structure. Its effects was certainly most satisfactory, for, after years of almost incessant vomiting, the patient soon acquired the power of retaining his food, the urine slowly losing its alkaline character. I would, indeed, venture to press this important remedy upon the notice of surgeons, to whose province cases of alkaline urine following injury to the spine more immediately belong; for, although not prepared to state anything approaching to a belief of its infallibility, I would still express an opinion that in many cases where especially there is no serious organic mischief, the strychnia would be more successful in relieving the distress attending upon the chemical changes

going on in these cases, in the urine after secretion, than any other remedy with which I am acquainted. Nor can I avoid here taking the opportunity of alluding to the value of the drug in the distressing vomiting so frequent in uterine affections, especially in the irritable stomach of hysteria, in which it is almost always successful as an important palliative.

Postscript.—Since the above was written, three other cases, similar to the one now detailed, have fallen under my notice. In all three the urine was loaded with crystals of triple phosphate, and presented the pale whey-like colour noticed in this case. I suspect that the irritable state of the kidneys depending upon, or, at least, coincident with, the abundant secretion of phosphates, will be, found a not uncommon cause of protracted nausea or vomiting.

Medical Gazette, July 10, 1846, *p.* 62.

53.—*Pericarditis, with Renal Disease.*—By John Taylor, M.D. &c.—[The patient in this case had been exposed to rain, and had endured abstinence for a good many hours, and on the following day suffered from chilliness, attended with cramp in the legs and fore-arm. He had pain between the shoulders, and a feeling of weight in the chest; breathed with difficulty, and lay in bed with his legs drawn up.

He continued in this state seven or eight days, occasional incoherence and delirium taking place. The urine was very scanty and high-coloured; he was exceedingly restless, and seldom slept. The morning of the day he was admitted into hospital he had a convulsive seizure; the belly was alternately contracted and relaxed: the jaws clenched, and the teeth ground together; foam issued from his mouth, and the head was dropped forwards. On his admission, he was quite unconscious. He began to be unruly, and was very delirious, but in a few hours he vomited a quantity of undigested food, oranges, potatoes, pudding, &c., after which he became more sensible, and could answer questions rationally.

A cursory examination of the heart was made, and no palpitation detected; he passed 12 ounces of pale urine having a greenish tinge, faintly acid, sp. gr. 1011, and leaving a slight whitish powdery deposit. One fourth of its volume of albumen was thrown down on the addition of heat and nitric acid.

All the symptoms persisted, and the patient died in two days Dr. Taylor observes:]

Prior to the occurr ence of the head symptoms, nothing appears to have happened that could have led to suspicion that any renal disease existed. There was no obvious emaciation nor deterioration of the general health. The characters of the urine were such as are common in Bright's disease, and the case therefore shows the importance of testing the urine in all cases of disease which come before us, and the important light which such a practice is calculated to throw over many otherwise obscure diseases.

There was no œdem whatever, although the renal disease was so considerable. A main reason of this was, no doubt, the absence of any considerable permanent obstacle to the circulation through the lungs or heart.

The symptoms referable to the nervous system, besides the distinct epileptic convulsions, were, frequent cramps in the legs and arms, delirium, confusion of mind, and, lastly, stupor, ending in fatal coma. All these symptoms are such as have been proved by ample experience to arise in many cases of Bright's disease. They appear to be induced by the accumulation of deleterious matters in the blood, consequent on the imperfect action of the kidneys. In many such cases, chemical analysis has proved that an excess of urea is present in the blood, whilst no morbid appearance can be detected within the head. Similar symptoms are likewise produced by extirpation of the kidneys in the lower animals. In this case, the brain was unusually pale; there was rather more serum under the membranes than in health, but not so much as is found in many fatal diseases without head symptoms. These were the only morbid appearances in the head, and they were simply those of anæmia, the consequence of the deficiency of the colouring matter of the blood, to which Bright's disease gives rise. Such cases, by establishing the connexion between certain symptoms and a poisoned state of the blood, help to illustrate other and analogous cases, in which the same or a different poison is mixed with the circulating fluid. Many cases of "serous apoplexy" and of the "simple apoplexy" of Abercrombie have probably been cases of Bright's disease, in which the state of the kidney has been overlooked. The delirium, pain, stupor, coma, and occasional convulsions, in cases of typhus, viewed in connexion with the fact established by Louis, that the appearances in the head are the same in such cases as in the cases without severe head symptoms, must be referred to the circulation of deleterious matters (in this case, however, of another kind) with the blood. Yet how frequently, even now, are such symptoms considered to arise from inflammation o the brain, and the treatment directed accordingly.

In what relation do these nervous symptoms stand to the pericarditis? Cases have been recorded by Mr. Stanley, and Drs. Abercrombie, Latham, Rostan, Andral, Bright, and others, in which, during life, a variety of severe nervous symptoms existed, and, after death, the brain and spinal cord were found to all appearance healthy, and no other disease was observed to which the symptoms could be ascribed, except acute pericarditis. A number of these cases has been collected by Dr. George Burrows, in one of the Lumleian lectures for 1843, and the account is published in the *London Medical Gazette* for May 26, 1843. In some of them there were "all the usual symptoms of inflammation of the brain and its membranes;" in two cases, symptoms of mania and dementia; in others, apoplectic and epileptic symptoms; in others, symptoms of tetanus and trismus, or of aggr avated chorea and hysteria. In all,

the pericardium was acutely inflamed; in a full half of them, with rheumatism, and in the rest, without rheumatism; and in all the fatal cases, the brain and spinal cord were substantially healthy. The generally-received explanation of such cases hitherto has been this,—that the nervous symptoms are sympathetic, the inflamed perieardium being a source of irritation, the influence of which is transmitted to the nervous centres, and in the cases attended with convulsive movements, reflected upon the motor nerves of various parts.

The case before us shows that a different explanation of some of these cases may be suggested, and supported, I think, with at least an equal amount of evidence.

1. There had been cramps in the legs, and occasional loss of memory, and double vision, before the perieardítis appeared; this disease, therefore, could not be the cause of the symptoms in question.

2. The coma and other recent nervous symptoms would all have been referred, without hesitation, to the renal disease, if no pericarditis had been found.

3. I have elsewhere (*Medico-Chirurgical Transactions*, vol. xxviii.) attempted to show that the mass of cases of non-rheumatic pericarditis is due to renal disease.

4. I believe it will be found that a large proportion of cases of non-rheumatic pericarditis is quite latent, in the ordinary acceptation of the term, and also that the mortality is much greater than mong the cases of rheumatic pericarditis.

I therefore regard the coma and the pericarditis, in this case, as the common effects of the renal disease, and believe them to be altogether independent of each other. I further believe it to be probable that the pericarditis and the nervous symptoms stand in the same relation to each other in a certain proportion of the published cases referred to. One or two particulars may be pointed out, either confirmatory of this view or consistent with it.

1. In no one of the cases, as collected by Dr. Burrows, has the state of the kidneys been expressly mentioned after death, or the presence or absence of albumen in the urine been noted during life. In several of them, indeed, it is stated that there was no morbid appearance in any other organ than the pericardium, but all who are practically acquainted with the way in which bodies are inspected, and the appearances recorded, will know that such a statement affords hardly the least proof that the kidneys were even seen, much less that they were so examined that they might be pronounced healthy.

2. The mortality was twice as great in the non-rheumatic as in the rheumatic cases, in which respect the two classes resemble, respectively, cases of rheumatic and renal pericarditis.

3. All the cases with apoplectic symptoms occurred among those without rheumatism; and one of the patients is stated to have had general decay. One of the rheumatic cases, ended in coma. Two of the three tetanic cases belonged to the non-rheumatic class.

From this comparison, therefore, between my own cases of "renal pericarditis" and those of non rheumatic pericarditis, I think there is much probability in the supposition that the kidneys were diseased in some, at least, of the cases of the latter class.

I have already detailed one case of trifling convulsive movements in connection with rheumatic pericarditis, and without renal disease, (case 9.) and I am disposed to consider the movements in that case (and therefore in many other and similar cases) as sympathetic of the pericarditis. In the same way more extensive convulsions, resembling those of chorea, or epilepsy, or tetanus, may be sympathetic, but in these cases it seems desirable that further evidence of the absence of other and sufficient causes, especially renal disease, should be adduced. This further evidence is still more needed in cases in which there is observed great or long-continued delirium, or coma, or genuine apoplectic symptoms. We are familiar with other examples of simply convulsive movements, and even extensive and violent ones, arising from reflected irritation, but we are scarcely equally familiar with cases in which well-marked apoplectic symptoms spring from the simple transmission of an irritating influence from some remote part, through the nerves to the brain. This is a kind of argument, however, upon which, in any case, I am not disposed to place much reliance; and in respect to the symptoms under consideration, numerous examples, both of epilepsy and of hysteria, show that coma may arise without either structural disease of the brain or any known alteration in the blood.

6. The epilepsy which this patient had earlier in life must of course have been independent of the renal disease, but it would probably operate as a predisposing cause of the fits which occurred during the last illness.

[Many of the symptoms in the early history of the case might be referred to the pericarditis, although after his admission into the hospital, nothing occurred to direct attention to the heart. The sounds certainly were not quite healthy, but there was no distinctly developed murmur or friction sound; this depended, doubtless, on the copious liquid effusion. After death, the heart was found enlarged to nearly double its average weight, the enlargement affecting the left ventricle. The exciting cause of the pericarditis was exposure to wet, but the principal cause was probably the renal disease, by interfering with action of the skin, and further impairing the functions of the kidneys, the blood would be rendered still more impure. In many cases of renal disease, pericarditis comes on without any additional cause.

Dr. Taylor makes the following note of the treatment.]

Treatment.—On the first day, before the state of the urine was known, and whilst the nature of the cerebral affection was considered doubtful, the patient was cupped over the nucha, and a brisk purgative ordered. As soon as the urine was known to be albuminous, I considered the cerebral symptoms to arise from Bright's disease, and I ordered elaterium, in quarter-grain doses,

to be frequently repeated. This was prescribed with the view of producing copious watery evacuations, which I have found to relieve the stupor in various cases of a similar kind. None of the medicines. however, acted upon the bowels, and the patient died on the second day after admission.

Lancet, May 16, 1846, *p.* 539.

54.—*Treatment of Glucosuria* (*Diabetes*).—By M. Bouchardat. —[For a number of years, M. Bouchardat has been engaged in the study of the pathology and treatment of diabetes, and the numerous facilities he has enjoyed, being *pharmacien en chef*, at the Hotel Dieu, at Paris, render the results of his researches of the utmost practical importance.]

The first element and basis of M. Bouchardat's treatment of glucosuria is, the exclusion from the diet of all substances capable of conversion into glucose. At first, in all the enthusiasm of a discoverer, he thought that this alone was sufficient, but he soon found that the means of cure are by no meant so simple, and that they really embrace attention to a great number of minute particulars, the influence of which requires to be united, and carefully continued for a considerable length of time, in order to produce the desired effect.

Diet.—All farinaceous substances and their compounds, or those into the preparation of which starch in any way enters, must be most strictly prohibited. In enforcing this prohibition the greatest address is required, as the longing of the patient for such articles is very great; and it is above all things essential to successful treatment, that disgust for food, and consequent anorexia, should if possible, be avoided. To satisfy the cravings for feculent substances, M. Bouchardat has invented a kind of bread, containing nothing that is convertible in the stomach into glucose. The mode of preparing this *gluten bread* is given below* and of its value in the

* *Gluten Bread* —The gluten is best obtained by the process of M. E. Martin: 40 parts of water and 100 of fine flour are worked into dough, as in making bread, and then laid aside for about half an hour in summer, or an hour in winter, in order to allow time for the water to combine with the flour. The dough thus prepared is laid on a fine metal seive, on which several fine streams of water are playing from a vessel suspended above, and being thoroughly worked with the hand, as in baking, until the water flows off uncoloured; the starch may be collected in the washings, and gluten to the amount of about one-fourth the weight of the flour employed will remain on the sieve, though of course the quantity varies with the nature of the flour. The gluten to be made into bread must be fresh prepared, as it begins to alter in a few hours. It is mixed with one-fifth of its weight of the finest flour, and kneaded for a very long time with the proper proportion of salt and leaven, by which a very light and elastic bread, without odour, and very agreeable, is readily formed.

Gluten bread is highly nutritious; and, in addition to its use in the treatment of diabetes, has been found of the greatest value in those cases of dyspepsia, gastralgia, or whatever else they may be called, in which the simplest aliment is found to sour upon the stomach, giving rise to acid eructations, and epigastric constriction."

treatment of diabetes we have ourselves seen several very striking proofs in the practice of medical friends.

Animal food of all kinds, as well as eggs, milk, butter, and cheese may be freely used, subject to the usual restrictions as to digestibility, &c.

The following vegetables are also proper to form a part of the diet of a diabetic patient:—spinage, endive, lettuce, sorrell, asparagus, *haricots verts*, cabbage of all kinds; the last may be very usefully combined with fat pork or salt bacon. Cresses of every kind, dressed with a large proportion of oil and hard boiled eggs.

A very agreeable and useful dish may also be prepared from fresh gluten, carefully deprived of starch, and combined with butter, and some kind of cheese grated.

The desert may be composed of olives, almonds, filberts, and walnuts. The following may also be allowed from time to time, but always in a very moderate quantity, viz., apples, pears, cherries, currants, gooseberries, strawberries, raisins, and pine apples.

Drinks.—Great importance in the treatment is assigned by M. Bouchardat to a proper selection of alimentary drinks. Theoretically, he regards spirituous liquors as belonging to the same category as oil and fecula, viz., ministers to respiration; and, by a judicious combination of the two extremes, oil, which burns away slowly, and alcohol which is rapidly consumed, to obtain the effect of the intermediate substance, fecula. Experience proved that stimulants in moderate quantities are useful; but that they require much discrimination and very careful management. The red French wines, such as those of Bourgogne and Bordeaux, which have a certain degree of astringency, he has found to answer best; and of these he administers about a pint in the twenty-four hours. It is sometimes necessary, but under peculiar circumstances, to increase the allowance of wine to three or four times this amount; but the least approach of inebriation is always injurious. A patient of our friend, Dr. Hunt, who has been remarkably relieved by M. Bouchardat's mode of treatment, and who is still under Dr. Hunt's care, is invariably rendered worse by even a single glass of wine; and the same circumstance was observable in another case that we had under observation for some weeks.

Beer and all the saccharine liquors have been found injurious, as might be supposed; and, if used at all, should be taken very sparingly indeed.

Coffee is useful to almost all diabetic patients, and should be taken without sugar, or the quantity of the latter ingredient must be very small indeed.

Lemonade, and the other cooling drinks, gives but temporary relief to the thirst, are, in this respect, no better than pure water, and are decidedly injurious.

Clothing ranks next to diet among the means of curing glucosuria. The whole body must be protected from sudden chills, and the insensible perspiration must be encouraged by being clothed in flannel.

Exercise, carefully regulated, and progressive, so as to avoid too great fatigue, and of such a kind—gymnastic exercises or manual labour, for instance—as is accompanied with pleasure, will, in all cases, be found of very great service in promoting the cure.

Baths have not been found by M. Bouchardat of much general utility. Tepid baths are occasionally useful, when there is no danger of the patient catching cold; and swimming baths, especially in the sea, when they can be borne at all, are often attended with the most rapid and beneficial results.

Medical Treatment in glucosuria, though useful and never to be neglected, can only be considered as subsidiary to the other means employed.

Carbonate of Ammonia M. Bouchardat has found of very great utility; but its use should always be united with the constant wearing of very warm clothing, or the medicine passes off by the kidneys, and gives rise to an alkaline state of the urine. It is exhibited in the following combination:—Carbonate of ammonia, 77 English grains; rhum, 310; water, 1550. One-third to be taken half an hour before each meal. Or it may be prescribed in the form of a bolus, each containing eight grains of the carbonate, with an equal quantity of the thériaque; from two to ten to be taken each night on going to bed. M. Bouchardat was unable to determine whether, in glucosuria, the ammonia acts as a stimulant or a diuretic, or what is the mode of its action; but of its efficacy in the treatment of rebellious cases he has fully satisfied himself.

Vichy water has, in some cases treated by MM. Jadioux and Bouchardat, been found of very decided efficacy. The alkaline bicarbonates generally, and especially that of soda, have been very highly recommended by MM. Contour and Mialhe. The latter gentleman, indeed, places his chief reliance on alkalies given in some form; and he has brought before the Academy, at different times, cases of glucosuria successfully treated by that means almost alone. M. Mialhe is, however, so very exclusive in his chemical notions, if we may judge from the work that he has published, that we fear his chemical observations must be very much modified by his chemical enthusiasm; and that his notions of what *ought* to take place will, as often happens with the greatest men and the most would-be-impartial observers, make him very blind to the real facts, and most ready to adopt as proofs what are really very far from being such. Besides being found by M. Bouchardat (whose extensive experience in diabetes renders every observation of his on this subject of very great weight) very much inferior in therapeutic efficacy to the carbonate of ammonia, MM. Honorè and Gueneau de Mussy have found it in some cases actually anjurious.

Dovers Powder and Opiates.—Every practitioner has experienced the benefit of these medicines in some cases, as palliatives, though many regard them as capable alone of effecting a cure. M. Bouchardat employs them only as diaphoretics. Morphia, or pure

opium, he never prescribes in diabetes, lest the stomach should be put out of order; but Dover's powder, in doses of ten or twelve grains at bed-time, he has found most efficacious; though, of all the opiates, he regards the theraica (divina) as that from which by far the most favourable results have been obtained. He gives this preparation, the absurd complexity of which he does not pretend to be able to reform, in doses of from half a drachm to a drachm every evening. The last-mentioned quantity contains about one grain of crude opium.

Chalybeate and tonic Remedies.—When the pallor and other symptoms give the case a great similarity to chlorosis, the tonic bitters, alone or combined with iron, will be found of much therapeutic value. The preparation of iron most valued by M. Bouchardat, viz., the pulverized iron, or the metal reduced by hydrogen, has been but recently introduced into this country; but if the price could be rendered more moderate, we have no doubt that it would speedily become a general favourite with physicians.

Common salt was formerly regarded by M. Bouchardat as a useful remedy from the diminution of thirst, which diabetic patients experience after partaking of salt meats; but, although, under such circumstances, the quantity of glucose passed also diminishes, no permanent or decisive benefit has been obtained from the employment of this means of treatment.

Evacuants.—M. Bouchardat commences his treatment by the administration of an ipecacuanha emetic, followed by a purgative to free the bowels of anything injurious that may be detained there; but he finds evacuant medicines, though so highly recommended by authors, of no real use afterwards, except to combat particular symptoms.

In speaking of digestion, we mentioned that certain substances have been found at once to put a stop to the action of diastase, and it is curious that these are chiefly the very medicines which have been most highly vaunted, by the older authors, as the proper remedies for diabetes. They have all, however, been found of little or no real value, except where, being unable to submit the patient to any regular treatment, we seek only to procure a temporary relief; the remedies of this class are lime water, calcined magnesia, alkalies, nitric, phosphoric, and sulphuric acids, alum, tannin, and the other astringents.

Bleeding is the last therapeutic means we have to consider. General bleedings have been recommended by a long list of writers, from Aëtius downwards; but M. Bouchardat has found them, as indeed might have been expected, invariably injurious. Abstraction of blood, by leeching and cupping, from the epigastrium, as recommended by Sir H. Marsh, Bardsley, Forbes, &c., from the loins, as advised by others, and from the anus, when the appearance of the disease has coincided with the suppression of hæmorrhoids, has been occasionally had recourse to by Bourchardat, and often with benefit.

In concluding our abstract of the researches on the theory and treatment of saccharine diabetes, we would repeat the caution so often given by M. Bouchardat, that the practitioner is to place his chief reliance on the dietetic and hygienic means advised; and that it is from a combination of favouring circumstances, and not from any one single means that any decided benefit is to be obtained. For ourselves, having had several opportunities of seeing patients treated successfully on the above rules, both by M. Bouchardat himself, and by other practitioners, we feel convinced that whatever may be the truth of the theory, the practice is, in very many many cases, the best that can be pursued.

Dublin Quarterly Journal of Medical Science, Aug. 1846, *p.* 281.

55. — *A Table of Urinary Deposits.* — By Ray Charles Golding, M.D.

Lithates.

1. Urine, white, yellow, red, or pink.
2. Of acid re-action.
3. Clarified by heat.
4. Is soluble in alkalies.
5. Dissolves in nitric acid with effervescence.
6. Solution in alkalies precipitated by acids.

Phosphates.

1. Urine feebly acid, neutral, or alkaline, when tested with litmus paper.
2. Is soluble in weak acids.
3. Deposits unaffected by heat.
4. Deposit of phosphate of lime, amorphous; urine of high specific gravity, unaffected by caustic potash.
5. Deposit of mixed or fusible phosphates; urine of low specific gravity, easily becoming putrid.
6. Triple phosphates: deposit crystalline, and soluble in acetic acid.

Oxalate of lime.

1. Urine mostly neutral, sometimes fully acid, or alkaline; specific gravity about 1020.
2. Is transparent, of a pale citron or greenish hue, and free from sediments.
3. Insoluble in acetic acid and in warm dilute nitric acid.
4. Oxalic acid set free by boiling with sulphuric acid (?)
5. Alkaline efflorescence of carbonate of lime before the blowpipe, reddening moistened tumeric paper, if sufficient deposit can be collected: carbonic acid and carbonic oxide gases being at the same time evolved.

Cystic oxide.

1. Urine greenish yellow, and as the phosphates generally coexist with the cystine, it has a peculiarly fœtid smell.

2. Is deficient in urea and lithic acid; specific gravity about 1020 or 1022.

3. Is rare in man, but prevalent in the canine and feline races.

4. Soluble in acids, fixed alkalies, and their carbonates.

5. Insoluble in alcohol, water, carbonate of ammonia, and nearly so in acetic acid.

6. Will not combine with the acetic, tartaric, or citric acids.

7. Soluble in caustic ammonia, but re-precipitated by acetic acid.

Sugar. (Grape.)

1. Saccharine urine peculiar to man.

2. Urine clear and green, unless the lithates or phosphates are accidentally present.

3. Average specific gravity 1040; but may range from 1025 to 1055.

4. Has a sweet taste, a vapid odour, and readily ferments.

5. Trommer's test (Berlin, 1841): sulphate of protoxide of copper and liquor potassæ; a brown sub-oxide of copper is precipitated on boiling.

6. Growth of Torula (ovoid) at 70° F., and vinous fermentation with yeast at 80° F. (Christison).

7. Ronge's sulphuric acid test: carbon deposited.

8. Rich brown when boiled with an equal weight of caustic potash (Moore).

9. Hunefield's chromic acid test: bistre brown colour produced by exposure to bright solar light.

Albumen.

1. Specific gravity 1024, 1020, 1013, or lower.

2. Coagulated by heat and nitric acid, if no redundancy of lithates or phosphates exist.

3. If coagulum fragile is indicative of a chylous origin, and as such coagulates spontaneously, and contains blood discs.

4. Deposit of lithates equally well produced by nitric or muriatic acid: not so albumen.

5. Lithates dissolved by a gentle heat (about 70° F.); albumen coagulated at 157° F.

Pus.

1. Forms a greenish yellow pulverulent deposit, closely resembling the phosphates, which becomes mucoid and tenacious on the addition of caustic potash.—(Babington.)

2. Pus-globules and sometimes oil-globules seen under the microscope.

3. Urine supernatant on the purulent deposit usually clear.

4. Renders urine acid, with no tendency to become alkaline.

Mucus.

1. Urine muddy and alkaline, does not contain oil-globules.

2. Urine contains phosphate of lime and triple phosphates in abundance.

Bile.

1. Colouring matter insoluble in water.
2. Stains linen permanently reddish brown.
3. Precipitated green by muriatic acid.
4. Nitric acid produces a greenish tinge, soon passing to red, blue, violet, and pink.
5. Soluble in caustic potash.

Xanthic Oxide.

1. Urine very similar in appearance and reaction, to lithic urine.
2. Yellow hue produced by nitric acid, and a reddish one by caustic potash.

Urea.

1. Urine of high specific gravity.
2. Crystal of nitrate of urea, produced by the addition of nitric acid to the urine and exposed to cold.

Blood.

1. Blood discs seen under the microscope.
2. If much blood be present the urine will be albuminous.
3. A light red colour sometimes produced on the addition of common salt to bloody urine.

Medica Gazette, May 15, 1846, *p.* 854.

56.—*Urinary Deposits, with their Characteristics and Tests.*—By W. Procter, Esq., York.

I.—Coloured.

(A.)—*Crystalline*, which is *uric acid*, characterized by having the rhombic form, or that of square tables; soluble in nitric acid by heat in effervescence, which, on evaporation, leaves a beautiful pink deposit (mureid of Liebig), becoming purple on the addition of ammonia; soluble in a boiling solution of potassa, from which hydrochloric acid precipitates it as a white gelatinous substance, speedily becoming crystalline.

Before the blowpipe blackens and dissipates with a peculiar animal odour.

(B.)—*Amorphous*, which may be

1. Pink, red, or yellow *urate of ammonia;* is soluble in hot water, and again deposited on cooling; soluble in boiling solution of carbonate of potassa; boiled with solution of potassa, evolves ammonia: has all the characters of uric acid with nitric acid.

Before the blowpipe comports itself as uric acid, except that it gives out ammonia, and decrepitates strongly.

2. Red or brown blood.—Urine becomes opaque by heat or nitric acid. Microscope detects the blood discs, which often subside, and

form a distinct layer at the bottom of the vessel; chloride of sodium, and other neutral salts, heighten the colour.

3. Green or brown bile.—If, from the brown colouring matter, (biliphocin,) on addition of nitric acid, the urine becomes blue, then green, afterwards violet and red, and lastly assumes a yellow or yellowish-brown colour; if in small quantity, the intermediate colours are not observed; hydrochloric acid changes the urine to green. If from bilin, this may be detected by Pettinkofer's test.

II.—Colourless.

(A.)—*Crystalline*, which may be

1. *Oxalate of lime.*—Octohedral or quadrilateral crystals; insoluble in acetic acid, soluble in nitric and hydrochloric acids; boiling with carbonate of potash; forms soluble oxalate of potash and insoluble carbonate of lime; the former gives characteristic reactions with chloride of calcium, sulphate of copper, and nitrate of silver.

Before blowpipe becomes carbonate of lime; on continuing the heat, lime only is left, giving out heat on the addition of water, and browning turmeric paper.

2. *Phospate of ammonia and magnesia*, (triple phosphate,) right rectangular or trilateral crystals; soluble in diluted mineral and acetic acids, from which, by an addition of ammonia precipitated in a crystalline form; soluble in boiling solution of potassa, with evolution of ammonia.

Before the blowpipe gives off ammonia, and runs into a white enamel, addition of phosphate of lime imparts ready fusibility.

3. *Cystine* in simple or compound tables; insoluble in boiling water, soluble in ammonia (with odour of sweet brier) and alkalies, and precipitated by acetic acid; insoluble in alcohol, tartaric and oxalic acids, and bicarbonate of ammonia.

(B.)—*Amorphous* may be

1. *Phosphate of lime.*—Readily soluble in dilute hydrochloric and nitric acids, sparingly in acetic; precipitated by ammonia in an amorphous condition, forming, when collected on a filter, a horny mass; oxalate of ammonia in these solutions gives a white precipitate.

Before the blowpipe, first black and then white, leaving an ash, which is neutral.

2. *Urate of ammonia.*—Characters as above. (Coloured B.)

Pus.—The microscope detects pus-globules. The urine coagulates more or less by heat; soluble in solution of potassa, forming a tenacious glairy fluid.

Mucus.—Insoluble in potassa; imparts little or no albumen to the urine, therefore slight or no coagulability by heat, &c.

Pettinkofer's test.—Add to the urine, by drops, two-thirds of its volume of sulphuric acid, keeping the mixture below 144°; add a few drops of a solution of cane sugar, (one to five of water,) and shake the mixture, when, if bilin be present, a violet red-colour will be developed.

Lancet, July 18, 1846, *p.* 68.

57.—*On the Influence of the Rhubarb Plant in producing Oxalate of Lime in Urine.*—By H. Wilson, Esq., Runcorn.—[The oxalate of lime in urine, can only be considered diagnostic of disease, when the oxalic acid is known to have been generated within the economy, and not introduced from without, for, says Liebig, the analysis of urine, when made without respect to the inorganic salts, acids, and bases of the aliment, teaches nothing.

Are there any kinds of food which may be the means of impregnating the urine with oxalate of lime? Dr. Wilson says:]

The young stalks of the *rhubarb* plant, which of late years have come into such general use in this country for tarts in the spring, and sorrel, of which our neighbours, the French, consume a good deal in salads and in other ways, both contain oxalic acid; and hard water contains lime. Dyspeptic persons who drink such water, and eat such articles of food, and are thus daily introducing, without suspecting it, the constituent ingredients of the mulberry calculus, are very likely indeed to incur the pain and the exceeding peril of a renal concretion of that kind. You must see, therefore, the great importance of detecting the oxalic diathesis, and of forbidding, to those who have it, all such viands as contain the oxalic acid, and of recommending them to use pure water, even distilled water for drinking.

[And it appears that the oxalate was found in three out of four after eating rhubarb; it disappeared in two after the second day, continued daily in the third, whilst on the fourth no trace could be found; but what is singular, is, that it was found after the discontinuance of rhubarb a week, and the crystals were as large and numerous as when first tested.

The following are the conclusions which appear fairly deducible from the experiments of Mr. Wilson:]

1. That, in a great proportion of instances, oxalate of lime will be present, for a longer or shorter period, in the urine of persons using the rhubarb plant as food.
2. That there are, on the other hand, some individuals in whose urine no oxalate can be detected during such use of a rhubarb diet.
3. That a rhubarb diet is capable of inducing the oxalic diathesis in individuals predisposed to it, or to the diseases characterised by it; and that it must, therefore, necessarily tend to exasperate and prolong such diathesis, when it already exists.

To these the following corollary may be added:

That the presence of oxalate of lime in urine should not be disregarded by the practitioner, from the supposition that it may originate in articles of food, but should, under any circumstances, be considered indicative of the oxalic diathesis, or of a tendency to it not less important.

It is generally supposed that the stomach has the power of de-

composing the vegetable acids. In the common saline draught, for example, it is believed that the tartaric or citric acid undergoes decomposition, leaving the alkaline base at liberty to form other and beneficial combinations; but, from the fact of these and many other of the organic acids; for instance,—the malic, succinic, gallic, acetic, *oxalic*, and meconic, having been detected in urine, though introduced into the stomach in a free state, it is obvious that the power of decomposing them possessed by the stomach cannot be uniformly exerted. We may hence account for the presence of oxalate of lime in urine, on some occasions, by supposing oxalic acid introduced with the food, to pass the ordeal of the digestive powers intact.

Provincial Medical and Surgical Journal, Sept. 2, 1846, *p* 413.

58.—*On Siliceous Gravel.*—By Dr. Venables.—[In Retrospect, Vol. XIII., p. 156, will be found an account of a small portion of siliceous gravel extracted from the urethra. Lime appeared to be its predominating principle, but the mass was so small, that nothing could be determined as to its chemical composition. Dr. Venables has, however, since had the entire calculus placed at his disposal, and has given us the following account of it.]

The entire calculus weighed exactly four grains and a quarter; it had a tuberculated appearance, and a colour exactly like the mulberry variety. Its tuberculated surface somewhat convex, the opposite one slightly concave, as if a laminated fragment detached from a small nucleus. There were observed, with a lens, two or three glistening or sparkling points, caused possibly by imbedded crystals, probably octohedra of oxalate of lime, but this could not be satisfactorily determined. There were likewise observed one or two points of a more opaque appearance, resembling quartz or dark flint. Two or three of these were observed interspersed through the substance of the fractures. A small fragment, heated on platinum foil over the spirit lamp, swelled up, the intumescence becoming nearly black, but ultimately leaving behind a whitish ash, which had no effect upon moistened turmeric or reddened litmus paper. The ash readily dissolved with effervescence, in diluted hydrochloric, and also in acetic acid. These solutions precipitated on the addition of oxalate of ammonia. A portion of the ash folded up in the foil, and treated by the blow-pipe, left a residue, which gave to distilled water digested on it an alkaline reaction. The above properties are evidence of oxalic acid, which, when combined with lime on exposure to a moderate heat is converted into the carbonic; this latter upon the application of a more intense heat being driven off, leaving the lime in its caustic state,

A fragment weighing two grains and one-eighth was crushed in a steel mortar, and digested for a short time with a diluted solution of caustic potass. This solution treated with excess of hydrochloric acid afforded a trace of uric acid, easily recognised by the form of the precipitated crystals when observed under the microscope.

The residue partially dissolved in hydrochloric acid, leaving behind a sensibly visible remnant, The solution in hydrochloric acid precipitated by ammonia a light and floeculent precipitate, (insoluble in concentrated acetic acid), but which on being boiled in a tube of hard glass became heavy, and assumed a granular appearance. A portion thrown into carbonate of soda infusion in a silver capsule* was decomposed, oxalate of soda and carbonate of lime resulting; the oxalic acid in the soda salt being verified by the appropriate tests. In another instance the acid was disengaged, and reduced by strong sulphuric acid, equal volumes of carbonic acid and of carbonic oxide being obtained. These properties leave no doubt that the principal bulk of the fragment consisted of oxalate of lime.

The residue, after the action of hydrochloric acid, was collected, dried, and exposed to the full action of the blow-pipe flame. This merely reduced its bulk to a very slight extent, leaving a dark-coloured ash behind. The heat decided that it did not wholly consist of organic matter, some forms of which resist the action of hydrochloric acid. The ash was heated with nitric acid, with which it was boiled, and then washed and dried. This mass presented no very definite form, nor any distinctive optical character. It was next treated with a mixture of soda and potass, in a small platinum capsule, by means of the blow-pipe, when it melted, with slight effervescence, into an enamel-like mass, which readily dissolved in warm distilled water. From this solution hydrochloric acid threw down a gelatinous looking precipitate, of a whitish colour, and which, washed and dried, proved to be siliceous matter. The quantity thus obtained was very scanty, and afforded but a few very minute granules,† presenting the microscopical appearance of very minutely divided silex as obtained from flint glass.

Observations.—I am very much gratified in being able to thus submit more perfectly the composition of this calculus fragment, presenting the rare anomaly of siliceous intermixture. In the paper published some little time since in this journal, I stated that the silex in Dr. Yelloly's calculus formed the nucleus. On referring, however, to Dr. Yelloly's paper, I find this statement incorrect, as it is stated that the granules "were imbedded in and diffused through the oxalate of lime." This appears to be the state in which the silex existed in the present case, (only not quite so large or distinct as to be mechanically separable from the surrounding mass of oxalate of lime), and so far may be looked upon as corroborative of the circumstances observed by Dr. Yelloly.

* This is a much more ready process than boiling the oxalate of lime with a solution of the carbonated alkali, which is far more tedious, and requires long continued ebullition to effect the interchange. With ordinary care there is no danger of destroying the oxalic acid by over-heating.

† Although the solution was evaporated and heated in a platinium capsule, and the alkaline chlorides removed by solution, still the quantity of siliceous matter obtained was very small, but yet quite sufficient for its identification.

In the paper before referred to, as published in this journal, I inferred that the acid in the earthy salt was the phosphoric, which evidently is an error, and arising from not having critically investigated the nature of the acid, which proved to be the oxalic. So far as I am acquainted there are now but five recorded instances of silex detected in urinary concretions; and in four out of the five the silex was found intermixed with the oxalate of lime. Out of six hundred calculi analyzed by Fourcroy and Vauquelin, in two consisting of oxalate of lime silex was found blended with this earthy salt .Dr. Yelloly's instance forms the third, and the subject of the present paper presents the fourth instance of analogous character. In Wurzer's case the principal ingredients were lithic acid and phosphate of lime. The calculus itself weighed 870 grains, and the silex was in the ratio of one per cent.; or forming, by weight, 8·7 grains of the mass.

In the few instances recorded, the silex has presented with what may be termed the earthy diathesis. May not its presence, therefore, be referred to some articles of diet, of which silex, in some favourable form for solution, may have been a constituent? Liebig states, that insoluble principles, forming part of our diet, and incapable of assimilation, or not required in the economy, are, for the most part, evacuated with the fæces. This may be readily observed in dogs after eating bones, the animal principles of which are digested and assimilated, while the phosphate of lime passes off with the fæces, in which, under certain circumstances, I have found a large proportion of lime, in the state principally of phosphate, with some intermixture of carbonate.

Certain of the soluble principles, the same authority states, pass out of the system with the urine. Hence, if silex, in a state favourable to solution, or even to soluble combination, be present and form a part of the articles used as food, we might thus expect to find it in the urine; and the possibility of such circumstances occurring but very seldom, would probably explain the occasional occurrence, but still very great rarity of siliceous deposits in urinary concretions. We, possibly, also may thus explain the apparent association of siliceous matter and earthy concretions; those articles of which silex forms an obvious integrant generally contain a rather large proportion of lime.

What the peculiarity of circumstances are which render silex ascessible to solution, it is difficult even to conjecture. Quartz digested for a long time in solution of caustic potass is dissolved at least in small proportion; for the decanted liquor precipitates silex on the addition of an acid, and the precipitate, in its hydrated state, readily dissolves in the caustic, or even the carbonated alkalies with basic reaction. Silex, also, when held in solution by the alkalies, precipitates slowly in minute brilliant crystals, when the liquor has been allowed to stand after being fully saturated with carbonic acid gas; and perhaps some similar reaction may give rise to its precipitation, when present, from the urine.

That soluble principles, either superfluous or incompatible with the purposes of the economy, pass off by the urine in preference, is not only attested, in some cases at least, by experiment, but to be inferred by analogy. We know that volatile principles make their way to the lungs and skin, and are exhaled with the breath, and the insensible transpiration. I have known persons in the poorer classes of society, and the poverty of whose circumstances obliged them to consume large proportions of strong-smelling vegetables, as onions, garlic, &c., in whom the skin exhaled the odorous principles of such articles so powerfully as to be highly offensive, and even capable, in a short time, of tainting the air of the room. It would perhaps be interesting, as likely to throw some light upon this subject, to examine the urine of animals fed upon matters comparatively abounding in silex, with a view to the detection of this principle. The subject, even if unimportant in a pathological, is highly interesting at least in a philosophical sense.

Medical Gazette, May 29, 1846, *p.* 945.

59.—*Living Animalcules in Human Urine.*—By Dr. Shearman.—[Dr. Shearman has communicated to the *Provincial Medical and Surgical Journal*, a case of living animalcules in the human urine. His patient was a tall emaciated young man, of phthisical conformation. After noticing the condition of the various important organs, Dr. S. observes:]

On examining the urine which he passed from after dinner to bedtime, and that which he passed when he rose in the morning, daily, I found it of the specific gravity of 1.020 to 1.025, of dingy amber colour, faintly acid, with a peculiar deposit of urate of ammonia in very small quantities. But there are *myriads* of *animalcules* swimming about with great vigour in it, principally in three forms. One kind is almost a circle, with a little break in the circumference; another appears like very minute earth worms—some much larger than others, but they twist themselves about into various forms, and are in great abundance; a third form appears as if the body diverged into two tails. They are perfectly *unlike spermatozoa*, and appear to be pretty nearly the same circumference from head to tail. Whether the round ones eventually merge into the long description, I cannot affirm, but I think it very probable.

I have shown these living creatures several times to a medical friend accustomed to test the urine, who has been as much surprised at their appearance as myself.

There is no evidence of any disease in the spermatic organs or kidneys; he has never had syphilis, gonorrhœa, or disease of the bladder or urethra, and never been guilty of onanism. To prevent the possibility of *imposition*, I *saw* this man pass some urine into a *perfectly clear glass jar*, which I *immediately examined*, and found exactly the same kind of company enjoying themselves very briskly. Some of the specimens of the *evening urine* speedily become alkaline, and have killed all the live stock; but the others

remain the same as when passed for several days, and the animals are quite active in it.

It will very naturally be conjectured that the animalcules have been generated in the fluid from the effect of the hot weather; but I have daily examined the urine of many other patients, and have kept some specimens for weeks, and I have this day examined the whole of them, and this is the only specimen of the kind I ever saw. Moreover, these animalcules exist in the urine *when it is passed*, which proves that the atmosphere has nothing to do with it.

Provincial Medical and Surgical Journal, July 1, 1846, *p.* 299.

[Mr. Stallard, of Leicester, in a subsequent number of the *Provincial Journal* reminds us of the reference to these animalcules in Dr. Golding Bird's work, (page 279), and then relates a case which occurred in his own practice. Mr. Stallard observes:]

Last November I have recorded the case of a youth who was greatly emaciated, and had long been suffering from violent urinary irritation. The urine was very abundant, seventy ounces in twenty-four hours, it was passed with great agony, such indeed was the irritation of the bladder that the presence of stone was suspected, and frequently sought for, but in vain. The urine was pale, but muddy, specific gravity 1.010: it contained traces of free sulphuretted hydrogen, and was highly albuminous. By the aid of the microscope, pus-globules, altered blood-discs, and thousands of animalcules were observed. The animalculæ were present in urine directly obtained from the bladder, and died when decomposition had fairly set in. The patient had great thirst; the tongue was foul, having long red papillæ; the appetite was capricious, and the food taken produced great flatulence; the bowels were purged, but the food passed in an undigested and fœtid state; the pulse was 110, feeble; the skin hot; and he had a slight cough. There was also some tenderness over the lumbar region. This case had been submitted to a great variety of treatment, but the warm bath, a moderate and easily-digested diet, together with gentle laxatives and tonics, were the means of giving him considerable relief. The patient shortly afterwards left the town, so that I am ignorant of the final result.

I was led to inquire whether the animalcules had been generated in the bladder, by finding them in a specimen examined only two hours after the evacuation of the urine. In all former instances I had taken it for granted that they had been formed after the urine had stood some time, and had already begun to decompose. I still think that they are intimately associated with decomposition, since they are only observed in strumous and debilitated persons, where the vital energy is unable to correct the tendency to decomposition which the urine containing them is especially liable to. In the case I have alluded to, the urine contained free sulphuretted hydrogen

and albumen; the latter I have almost uniformly observed in connection with vibriones.

[Mr. M'Dougall, formerly house-surgeon to University College Hospital, also notices Dr. Shearman's case of living animalcules. He considers the case to be one of spermatorrhœa, in which, when the case is of some standing, the spermatozoa become changed in character. He wishes Dr. Shearman to cause his patient to urinate into three separate glasses – that containing the first portion, he says, will have a few animalcules—the second none, and in the third portion they will be abundant.]

Provincial Medical and Surgical Journal, July 15, 1846, *p.* 324.

TOXICOLOGY.

60.—APPLICATION OF ELECTRO-GALVANISM IN POISONING BY LAUDANUM.

By Dr. Martin Barry.

[An infant, nine months old, had been dosed with laudanum in order "to put it to sleep." Medical assistance was not called in until nine hours after it had been administered, when of course all attempts to get rid of the poison by inducing vomission were useless, and the child appeared fast sinking under the ordinary symptoms of narcotic poisoning,—in this state it was brought to the Edinburgh Maternity Hospital, and]

Dr. Barry applied electro-galvanism, using for this purpose the apparatus made by Abraham and Danser, of Manchester. At first the mixture in the trough contained one thirty-second part of strong sulphuric acid, the quantity of which was afterwards increased to one-sixteenth, and the pointer in the index was gradually brought round to the very strongest power. The wires were applied in turn to every part of the body, and the child was roused by their application, and kept awake, or at least kept moving an arm or a leg, so long as they continued in contact with it. When the wires were removed, even for a few seconds only, it sank sound asleep, the respiration continuing unchanged. At the end of about three hours, a little more susceptible, and perhaps somewhat more energetic in the movement of its limbs, but with this exception, the infant exhibited nothing like a satisfactory revival, until the the tremendous current had been made to pass through its body for four hours and three quarters. Then, however, it really did revive, the respiration becoming more quiet, and the pupils undergoing some dilatation. From this time it recovered, required no further treatment, and in a few days was quite well.

In order to arrive at something like an estimate of the quantity of laudanum swallowed, Dr. Barry caused a pennyworth to be bought at the same shop. This was measured, and the quantity, one drachm and a half, compared with what was found remaining of the other pennyworth above referred to, allowance being made for about the same quantity of water said to have been added. Say, therefore, laudanum dr. iss. + water, dr. iss. = dr. iij., of which a teaspoonful is said to have been swallowed. There was found remaining less than two teaspoonfuls, the same spoon being used as that with which the child had been dosed. Thus, a drachm of the mixture had disappeared, half of which was laudanum, or say a few minims less than half a drachm, say twenty-five minims.

Provincial Medical and Surgical Journal, June 17, 1846, *p.* 278.

61.—*On Poisoning by Prussic Acid.*—By J. G. Fleming, M.D.

A gentleman, aged about forty-five, of stout muscular make, called at a tavern which he was in the habit of frequenting, on the 23rd of April, 1846, at five o'clock P.M. He is stated to have complained of being faint, asked to be allowed to rest in another room, and to have a glass of water; he appeared agitated and breathed somewhat laboriously, but perhaps he was slightly intoxicated. He was shown into a room, and took his place in a reclining position on the end of a sofa; a tumbler, about three-fourths filled with water was placed on a table at his right side; he cannot be said to have been left alone for an hour after this, as a party were for some time drinking in the same room, and the attendants were also occasionally in it. About six o'clock, *all* the glasses were removed, with the exception of the tumbler of water which had been given to him, the door of the apartment was shut, and he was left alone, occupying a similar position on the sofa to that already mentioned, and breathing heavily as if asleep. About three quarters of an hour now elapsed before any one entered the room, when he was found in the same position, but sitting more erect, his head leaning forward, his arms lying easily by his sides, but quite motionless. This was about a quarter to seven o'clock. I was immediately sent for, and saw him in less than five minutes. I found him stretched on his back on the sofa, and quite dead; there was not the slightest action of the heart or lungs, and, from the coldness of the face, forehead, and hands, I inferred he had been dead for half an hour. His features had a remarkably composed expression, as if he had died easily, his lips had some colour, his jaws were closed, eyelids quite shut, cornea prominent and glistening, the pupils about half dilated. I opened two veins, in the right arm to satisfy the numerous bystanders, but no blood flowed.

On examining his person, shortly after this, I found in the trousers pocket of the left side a half ounce vial, *loosely corked*, labelled "Prussic acid," having a strong odour of that liquid, and wet as if

recently emptied. I now examined carefully, but I could not detect the characteristic odour of the poison in the room, or from his mouth. A small quantity of fluid, I am satisfied it was water, had been spilled on the floor close to the sofa; neither this nor the water in the tumbler had the most distant smell or taste of prussic acid, and the landlady stated that the tumbler was nearly as full as when she handed it to him.

The body was inspected sixty hours after death; in this and in all the chemical researches for hydrocyanic acid, I was kindly assisted by Dr. John Crawford, Professor of Forensic Medicine in the Andersonian University. We could not detect any odour of prussic acid from the mouth or body. Features full—expression composed and as if asleep—cheeks not even devoid of their natural ruddiness—cornea prominent, though not so much so as immediately after death—eye glistening as in life—pupils about half dilated—rigidity of limbs much as is usual at the same period after death—abdomen had a greenish tint, indicating the commencement of putrefaction. The posterior part of the head, trunk, and limbs, were of a red colour, which did not disappear on pressure. The mouth was firmly closed, and no fluid had been discharged from it. The right sleeve and side of shirt were stained with bloody serum, which had oozed freely from the veins which were opened in the arm.

[When the thorax and abdomen were opened, the characteristic odour of the acid was very decided.

Some hours after the inspection, four ounces of fluid, taken from the stomach, having the odour of the poison, did not give the characteristic colour with protosulphate of iron. Dr. F. adds:]

Ninety hours after death the remaining contents of the stomach, amounting to about fourteen fluid ounces, and consisting of half-digested animal food, bread, and apparently malt liquor, having a faint odour of prussic acid, were put into a retort, with the addition of some sulphuric acid. The retort was placed on a sand bath, and distilled with a gentle heat for three hours, when two ounces of a clear fluid had collected in the receiver, having a distinct odour of prussic acid, masked however, by the peculiar sour smell of half-digested food.

1. On rendering a portion of the distilled liquid alkaline by potash, the addition of a solution of the protosulphate of iron produced a dirty green precipitate, which by a few drops of hydrochloric acid was changed to a deep Prussian blue colour.

2. To the fluid rendered alkaline by potash, the addition of a solution of the sulphate of copper produced a greenish precipitate which became white on adding a few drops of hydrochloric acid.

3. On a solution of the nitrate of silver being added to the distilled liquid, a copious white precipitate took place. When this was dried and heated in a very narrow reduction tube, it emitted a gas

which when ignited at the end of the tube, burned with a rose-coloured flame.

The complete success of these experiments thoroughly established the presence of prussic acid in the stomach. A portion of the distilled liquid was given to Dr. J. A. Easton, who has informed me that in his hands they were all equally successful. I beg to express my obligations to Dr. Penney for the facilities he afforded us of conducting these experiments in his laboratory.

The following short observations are chiefly intended to point out in what respects the foregoing case accords with or differs from the symptoms and pathological appearances which have generally been observed in persons poisoned by hydrocyanic acid. An accumulation of well authenticated cases would be highly useful and interesting in a scientific point of view, and particularly valuable to the medical jurist.

It was ascertained that the unhappy man had procured half an ounce of prussic acid about fifteen minutes before he called at the tavern. There was no odour of the acid perceptible in the room or about his person within an hour after he took it, which would most likely have been the case had any of it been spilled, so we have every reason to conclude that the whole half ounce was swallowed, the bottle being empty when I found it. Next day I obtained a supply of acid from the same bottle as he had procured it, and submitted it to the method recommended by Dr. Christison, for ascertaining the strength of hydrocyanic acid, and the result was exactly what should have taken place with acid prepared according to the Edinburgh Pharmacopœia, which contains 3·3 per cent. of anhydrous acid, consequently the subject of the present case in half an ounce had, as nearly as possible, eight grains of pure acid. With scarcely an exception the dose which is equivalent to a grain has proved fatal. The Parisian epileptics had only two-thirds of a grain each. Sarah Hart scarcely a grain. The rapidity of death does not always appear to be in proportion to the largeness of the dose, but modified by circumstances, such as idiosyncrasy, bodily strength, and the quantity of food in the stomach. There are some grounds even for thinking that beyond a certain dose the effects are not increased, that is to say, a dose far greater than a merely fatal dose does not produce more violent symptoms or speedy death than the exact poisonous dose. The medico-legal question of how long a person after a poisonous dose may have power and consciousness to perform acts of volition and motion, is of the highest importance, as from these acts principally can it be inferred whether death has been the result of suicide or murder. In the recent case of the trial of Belany for the murder of his wife, the medical opinions were strong that all volition would cease after the scream which has been considered as characteristic of poisoning by this substance. This may be quite correct where a scream does take place, but it is by no means so frequent a symptom as is commonly supposed. It does not appear to have been heard in the cas

Sarah Hart; it did not occur in two cases reported by Mr. Hicks, (*Med. Gaz.* 1845); nor in a case given by Mr. Nunneley, (*Prov. Med. and Surg. Jour.* 1845); neither was it heard in the case I have just narrated, though several individuals were in the adjoining room.

A sufficient number of cases, however, are now on record to prove that after large doses, viz., from two drachms to four ounces of the medicinal acid of different countries, and consequently of a variety of strengths, relevant remarks may be made, and acts of volition and motion deliberately performed. I shall briefly mention three.

A gentleman at Bristol (1843), after swallowing half an ounce (Lon. Phar.) = five grains anhydrous acid, walked about sixty yards, articulated to an acquaintance several words distinctly and relevantly, and did not die for ten or twelve minutes. He gave no scream. A case is reported by Sobernheim of a young gentleman who took four ounces from two vials. He was found dead in bed, the clothes drawn up to his breast, his arms beneath the clothes, and on each side an empty two ounce vial. In Mr. Nunneley's case already referred to, a gentleman after taking an ounce appears to have walked or rather ran up a stair, was quite sensible, and spoke rationally for about five minutes, and lived three quarters of an hour. The person I was called to, after drinking the poison from the vial, had the consciousness and power to recork it, and return it to his pocket, and from the absence of the odour from his mouth, and a small quantity of water having been recently spilled on the floor at his side, it is very probable that he had time to swallow a mouthful of water from the tumbler, and replace it on the table, before he was deprived of the power of voluntary motion.

[There are no post mortem appearances universally found after poisoning with prussic acid. The odour of the acid should be sought for both externally and internally; but it is not always acpreciable externally as is shewn by Sarah Hart's case.

Internally, however, it can generally be detected within three or four days, occasionally it is altogether wanting, but these cases are rare. Amongst the most characteristic signs of poisoning by this drug should also be noticed, the calm and life-like appearance of the countenance, and the bright state of the eyes. There is also extreme fluidity of the blood; the veins being full and the arteries empty. The left auricle and ventricle of the heart are generally found empty, and sometimes all its cavities; but, in a case recorded by Mr. Nunneley, of Leeds, the heart was completely distended with dark fluid blood.

The action of this powerful poison seems now generally acknowledged to be directly on the nervous system, to what tissue soever it be applied. Dr. Lonsdale's experiments have led him to conclude that, the immediate effects of the poison are exerted on the brain and spinal cord, and that the contractibility of the heart is indirectly enfeebled, according to the dose, or whether the acid be in a pure or diluted state.]

Monthly Journal of Medical Science, July, 1846, *p.* 12.

62.—*On the Action of Prussic Acid as a Poison.*

Dr. Meyer, as the result of his experiments with this acid on animals, states—

1. That it had a paralyzing action on the peripherie nerves—i. e., it suppressed sensation and motion, and occasioned congestion, with augmented secretion, which was chiefly observed in the cavity of the mouth. 2. He found it to act only when received into the vascular system. On mechanically arresting the circulation, the poison did not act, although the integrity of the nervous system was preserved. On restoring the circulation, the operation of the poison was immediately observed. 3. Hydrocyanic acid does not act so rapidly as it was formerly believed. Its operation was never nstantaneous. 4. Its fatal effect is owing to paralysis of the heart induced by the topical action of the blood, mixed with hydrocyanic acid, upon that organ. It required about thirty seconds for the poisoned blood to reach the heart and produce its paralyzing effects, and it mattered not whether the poison was applied directly to the substance of the heart, or to parts remote from it. In Dr. Meyer's opinion, prussic acid may act independently of the brain or nerves, or of their intervention. It requires for its operation, absorption and diffusion until it reaches the heart. It is owing to this, in his opinion, that amphibia are less rapidly killed by this poison than mammalia, the action of the heart in those animals being less necessary for the maintenance of life. Nevertheless, in a certain dose the poison may act upon and paralyze the nervous system, producing tetanic convulsions, congestion of the veins, and exudations in the serous cavities. It is not true, as it is generally believed, that in death from prussic acid the blood does not coagulate. Dr. Meyer found that this liquid coagulated in the bodies of the animals which were killed in his experiments."—*British and Foreign Review.*

Lancet, June 13, 1846, *p.* 660.

63.—*New Test for Prussic Acid.*

The following new method of testing for hydrocyanic acid is proposed by Mr. Richard Austin, jun., of Dublin. The precipitate of cyanide of silver, say half a grain, obtained in the usual manner, is mixed with a small quantity of oxide of iron and carbonate of potash, and the whole fused together in an iron or platinum capsule. The fused mass is then dissolved in half an ounce of distilled water, filtered, and rendered slightly acid by the addition of a few drops of hydrochloric acid. The liquid thus treated is next divided into two portions, to one of which a few drops of a solution of sulphate of copper is added, which immediately causes the evolution of the chocolate-brown colour, so characteristic of the ferrocyanide of copper; and to the other, a few drops of the muriate tincture of iron, or any persalt of iron, when the solution becomes intensely blue by the formation of the ferrocyanide of iron, the ordinary Prussian blue.

In Mr. Austin's opinion, "these two tests, with the well-known odour of prussic acid, are, independent of all others, sufficient to convince the medical jurist of the presence of free prussic acid." Mr. Austin adduces several arguments to show the superiority of this test over those already known to chemists, both in accuracy and facility of application, by persons not skilled in chemical manipulation.

The precipitates above mentioned are very distinctly obtained with half a grain of cyanide of silver.—*Dublin Hospital Gazette.*

Lancet, July 11, 1846, *p.* 49.

64.—*Magnesia in the Treatment of Poison by Arsenic.*—By M. Bussy.

At the sitting of the French Academy of Sciences, 18th May, M. Bussy presented a note on the use of magnesia in poisoning by arsenic. The results of his paper are as follows:

1. That purified animal charcoal, recently proposed against poisoning by arsenious acid, cannot be employed successfully for that purpose.

2. That magnesia, in a state of purity, but not strongly calcined, readily absorbs arsenious acid in solution, and forms with it a compound insoluble even in boiling water.

3. That in the gelatinous state it still more readily absorbs the poison.

4. That animals which have been forced to swallow arsenic uniformly escape when made to take a sufficient quantity of magnesia.

5. That this antidote has, over every other, known or in use, the advantage of being found at hand in all the shops; that it readily and completely neutralises the poison; that it can be given in large quantity without inconvenience; and that its general effects on the system coincide with the indications of treatment to be fulfilled under the operation of the poison.

6. That magnesia decomposes emetic tartar, the salts of copper, corrosive sublimate, and that there is reason to believe it might be successfully employed to counteract and destroy the effects of these poisonous substances, and of metallic salts in general.

7. That the salts of the organic alkalies, morphia, strychnia, &c., being also decomposed by magnesia, the use of that substance, in the case of poisoning with organic products, owing their activity to the presence of vegetable alkalies, might be the means of impeding and retarding the absorption of the poison. This conjecture the author reserves for verification by farther trials.—*Gazette Médicale de Paris*, 23rd Mai, 1846.

Monthly Journal of Medical Science, Aug. 1846, *p.* 154.

[Dr. Christison's attention was lately called to this subject, by a case of poisoning with arsenic, in which magnesia seemed very useful: soon after this, his attention was called to the subject by

observing that M. Bussy had read the paper just referred to before the French Institute.]

While waiting for the details of Mons. Bussy's inquiries, Dr. Christison made a few experiments to ascertain the amount of the action of magnesia; and he found that the dense magnesia of the shops exerts very little action in removing arsenic from solution in water; that a very light magnesia, now largely manufactured at Belfast, and quite free of carbonic acid, will remove about a twenty-fifth of its weight of arsenic from solution in water, when agitated with the solution for a few minutes, so that even ammoniacal nitrate of silver does not any longer indicate the presence of arsenic; that the same magnesia will remove about a twelfth of its weight of arsenic if agitated occasionally for a period of eight or twelve hours; that this proportion is removed entirely in less than three minutes if the mixture of magnesia and water be previously near the temperature of 212°; and that the same proportion is removed with as much speed at ordinary temperatures, if the magnesia be used in the form of gelatinous pulp, as thrown down in a cold solution of sulphate of magnesia by solution of caustic potash, and washed with cold water.

It is well known that magnesia was proposed many years ago by Mr. Hume, of London, as an antidote for arsenic, and that several cases have been published in which it appeared to have been of service; but that its general utility has been doubted or denied on account of the apparent want of chemical action between oxide of arsenic and magnesia. Mons. Bussy's inquiries will probably clear up these difficulties. Meanwhile, it appears probable, from the experiments described above, that the general belief in the want of action between magnesia and oxide of arsenic has arisen from the circumstance that, for a long time, no other magnesia has been in current use in medical practice in Britain except the dense variety, which appears to exert very little action on arsenic in solution on account of its great density.

Dr. Christison promised more accurate experiments and a statement of the successful case hereafter. Meanwhile it appears advisable that, when magnesia is used as an antidote, and cannot be promptly obtained in the gelatinous state, the light calcined magnesia should alone be employed, and in the proportion of between thirty and fifty parts to one of arsenic,

Monthly Journal of Medical Science, Aug. 1846, *p.* 158.

65.—*Poisoning by King's Yellow.*—By GEORGE PATERSON, M.D., F.R.C.P., Physician to the Royal Infirmary, Edinbro', and Lecturer on Clinical Medicine.—[It was believed that this patient had swallowed a quantity of king's yellow, on the previous evening, with a view to self-destruction, and it subsequently appeared that she had purchased a drachm of the substance, the whole of which there is reason to believe was taken.

On admission, vomiting was frequent, with great anxiety and suffering, extreme collapse, surfaee of body cold, and pulse searcely pereeptible. There was no little uneasiness of abdomen or epigastrium on pressure.

Warmth was ordered to the surfaee, with other means of restoring the cireulation and animal heat.

Hydrated peroxyde of iron to be freely administered.

8 P.M.—Pulse rose in an hour so as to be distinetly felt, though still weak; heat of surface was restored, and she had taken the peroxide at frequent intervals, the greater part of whieh was vomited at first, but was latterly retained in the stomach.

May 30. Noon.—The measures adopted gave speedy relief, and refreshing sleep was proeured. Pulse quiet but weak; epigastric tenderness almost entirely gone; the bowels were opened by enemata of warm water.

Only complaint at present is of slight pain in the larynx ond traehea, inereased on pressure.

To inhale; and mucilaginous drinks to be eontinued.

Repeat opiate if necessary.

8 P. M.—Some vomiting sinee last visit. Little if any epigastric tenderness, but has now slightly aceelerated breathing, and mucous rales are audible generally over the chest.

May 31. Noon.—Chest symptoms rapidly increased. When seen in the night she had violent cough, and extreme dyspnœa, the lungs appearing to be loaded with effusion. An emetie which was ordered did not operate. At present has dyspnœa and mueous rale in breathing; surface cold, and pulse searcely to be felt; tongue dark and dry. Blister has risen. Still tenderness over the larynx and trachea. Urine reported to have been plentiful sinee admission. No convulsions or delirium.

The patient died in the course of half an hour from the visit, or about 60 hours from the time she had taken the poison.

King's yellow, according to Dr. Christison, eontains * * * * sulphuret of arsenic, caustic lime, and free sulphur, and in all probability the lime exists in the form of a triple sulphuret of lime and arsenie.

The point which in the first plaee demands some notiee is the antidote employed, and its apparent effects in neutralizing the poison; we follow the Dr., who observes:]

Of the various substanees whieh have been alleged to counteract the effects of arsenic, none have as yet stood the test of experienee, unless it be the hydrated peroxide of iron. Of the rest, some have been found, on further trial, to be totally inefficaeious; while others, sueh as magnesia and charcoal, have owed whatever effieacy they may possess solely to their enveloping and dividing the particles of the poison, and so proteeting the eoats of the stomach from its irritant action. But the hydrated peroxide of iron, so far as we are yet acquainted with its effects, does appear to act as a true

chemical antidote, combining with the arsenic in the stomach to form an arsenite of iron, a substance of little solubility, and, consequently, of little energy. And although this compound seems capable of being partially acted on by the fluids of the stomach, whereby arsenious acid is again set at liberty, yet there is stated to be a further advantage attending the use of the peroxide of iron, in that an additional dose serves at once to neutralise the arsenious acid thus set free. Consequently, the antidote requires to be given repeatedly, and in excess. The remedy, it must be admitted, is of recent introduction, and has not, perhaps, received as yet a sufficient trial to enable us to rely on it implicitly. But this very circumstance gives an additional importance to the present case, where the hydrated peroxide of iron was freely and repeatedly administered, and, as far as the circumstances of the case admitted, apparently with good effect. At least, under its use, and by attention to the proper means for restoring the pulse and heat of surface, the severe symptoms which our patient presented on admission passed off, and, by the next morning, she was so far recovered that, as I have already stated, the immediate danger appeared to many to be past. Even this amount of relief could scarcely have been looked for, when we consider that the poison had been ten or twelve hours on the stomach before any antidote, except milk, was administered; and thus, notwithstanding that the case ultimately proved fatal, I think we have here strong confirmation of the efficacy of the peroxide of iron. It will also be remembered, that the symptoms immediately preceding death were those of intense inflammation of the tracheal and bronchial mucous membrane, of which inflammation abundant evidence was discovered on post mortem examination; while the stomach and intestines were remarkably free from those traces of the action of arsenic on their coats, which it is customary to find in cases of arsenical poisoning.

Secondly, The apparent cause of death. The circumstances taken in connexion with the previous abatement of the ordinary symptoms of poisoning by arsenic, and the comparative absence of those appearances which we are accustomed to find in the alimentary canal, leave scarcely any room for doubt that *the bronchial affection was* in this instance *the more immediate cause of death.*

Thirdly, A question of considerable importance thus arises, viz., Did the bronchitis supervene accidentally in the course of this case, or was its occurrence intimately connected with the taking of the poison? It certainly is barely possible that in the hurry of removing and treating an urgent case of this kind, a degree of exposure quite sufficient to give rise to severe bronchitis might very inadvertently be permitted to take place on the part of the medical attendants or friends. But the extreme violence of these symptoms in the instance before us, and their rapid progress to a fatal termination, would almost, I think, require some other way of accounting for them, than can be furnished on the supposition of mere inadvertent exposure to cold in the course of removal and

treatment. Besides, it is well known, that in cases of irritant poisoning generally, there not unfrequently occur symptoms and appearances of inflammation of organs which are more or less distant from the parts to which the poison has been directly applied; and of the lungs among the rest. It is thus, in particular, that antimony has been shown commonly to cause death, when animals have been poisoned with it. Others of the metallic irritants also, as corrosive sublimate and copper, are stated, among the various consequences of their administration, sometimes to cause inflammation of the lungs. Again, as respects arsenic, Dr. Christison tells us, "sometimes there are present signs of irritation of the lungs and air passages—almost always shortness of breath (which, however, is chiefly owing to the tenderness of the belly)—often a sense of tightness across the bottom of the chest, and more rarely, decided pain in the same quarter, darting also through the upper part of the chest. Sometimes pneumonia has appeared a prominent affection during life, and been distinctly traced in the dead body." In confirmation of which statement several instances will be found at p. 346 of the 4th edition of his work on poisons. It is to be observed, indeed, as respects all these irritants, that while inflammation of the lungs is mentioned by authors among the affections which may occur from their administration, in the case of none of them, excepting antimony alone, is it adverted to as an ordinary or even an occasional cause of death. Its being so in the case before us, then, must be regarded as an exception to what ordinarily occurs in poisoning by arsenic. But this is no sufficient ground for denying either that such was the mode of death here, or that the inflammation and congestion of the lungs and bronchi were closely and intimately connected with the taking of the poison. If, among the symptoms produced by arsenic, we occasionally meet with inflammation of the organs within the thorax, there is no good reason why such inflammation may not, at a time, and under particular circumstances, be the direct cause of death, and that without our being constrained to seek for any other explanation than simply the effects of the poison, in order to account for it.

But here another question occurs, as to the mode in which these remote effects of the poison may be produced, and more particularly as to how they were caused in the case now under consideration. When distant organs are thus affected in cases of irritant poisoning, the circumstance is commonly ascribed to the absorption of the substance into the blood, and its conveyance to the part through the medium of the circulation; and rightly so, as is proved by various of those poisons having been detected in the blood, the liver, the urine, &c., by their power of acting through the medium of the skin—and, what is very remarkable, by their having a tendency, in whatever way they may be introduced, to affect certain organs and secretions in preference to others. This is illustrated by the case of antimony already alluded to, which generally

proves fatal by exciting pneumonia; and also by arsenic, of which Dr. Christison informs us, that "whatever be the texture of the body to which it is applied, provided death do not ensue quickly, it almost always produces symptoms of inflammation in the stomach, and, on inspection after death, traces of inflammation are found in that organ." But there is another way, besides absorption into the blood, in which a poisonous substance may affect parts with which it has never come into direct contact, viz., by extension of the inflammation through continuity of surface; and it is in this way, I think, rather than in the former, that we are to account for the fatal bronchitis in this instance. I argue thus, in the first place, from the comparatively rare occurrence of bronchitis, especially fatal bronchitis, in connexion with arsenical poisoning; and, secondly, from the actual probabilities which there were in the present case, of the inflammation having extended in this manner; for, it will be recollected, that a few hours before accelerated breathing and mucous rales were first noticed, and at a time when, in all other respects, the aspect of the case seemed favourable, there was found to be slight pain on pressure over the larynx and trachea; and, on dissection, the mucous membrane of these parts was found intensely congested, and of a deep brownish-red colour, continuously with that of the bronchi. We conclude hence, that the inflammation passed downwards from the larynx to the bronchi; and how it was excited in the larynx is not difficult to explain, when we consider further the continuity of its mucous membrane and that of the pharynx, with which latter particles of the poison must have been brought into contact more than once, in the act first of swallowing the substance, and subsequently of vomiting.

Monthly Journal of Medical Science, Sept. 1846, *p.* 183.

VARIOUS SUBJECTS.

66.—ON SCROFULA.

By B. Phillips, Esq., F.R.S., &c.

[Mr. Phillips defines scrofula as a disease manifested by a peculiar deposit in the subcutaneous lymphatic glands. Mr. Dalrymple thinks the glands themselves are inflamed, and thus describes their appearance under the microscope:]

This enlarged gland appears to consist of a general parenchyma in a state of chronic inflammation, surrounding irregular masses of yellowish white matter more immediately the subject of examination. In direct proximity to the edges of this white material, the blood-vessels are seen to be more enlarged and congested than else-

where; and in some parts the capillaries are occluded with coagulated blood. The parenchyma, which at first sight appears healthy, is, on examination with high powers, found to be infiltrated with exudation-corpuscles, resembling lymph-globules. The natural texture of the gland consists of its proper corpuscles, filamentous tissue, blood vessels, lymphatics, and nerves. In this morbid specimen, everywhere is the filamentous tissue infiltrated, and its fibres separated by innumerable exudation-corpuscles, and the proper corpuscles of the gland are similarly surrounded and imbedded. As the parenchyma is nearer to the white matter, so proportionally do the proper corpuscles of the gland become more indistinct, the filamentous tissue more obscure, the blood vessels irregularly dilated and filled with red globules, and they at last disappear insensibly. The exudation-corpuscles are more numerous, but irregular in size and shape, and interspersed with minutely granular matter.

[Does this disease arise from a change taking place in the elements of the blood, or does the part exercise a specific influence upon it, determining the character of the deposit; or, are both removed from a healthy condition? Mr. Phillips believes that the blood previously undergoes a change. He says,]

I have examined the blood in sixty-seven instances of scrofula, and although I have almost always observed a considerable deviation from the condition of healthy blood, the changes have not presented sufficient uniformity to induce me to regard any particular condition as specially characteristic of scrofula; the changes are such as seem to belong to a tolerably extensive group of affections, all, it is true, being connected with disordered nutrition and debility. . . . . I am not, therefore, in a condition to point out any particular state of the blood which is certainly characteristic of scrofula; but it is certain that if we examine the blood when the marks of scrofula are evident. its altered condition is also evident; but I know no particular condition of the blood which clearly marks the existence of scrofula. However, the occurence of similar changes, at the same time, in different regions of the body, seems to point to some other than a local agent, as producing the change in the organ in which the deposit is made, and that agent the blood.

So much may, I think, be fairly assumed, that the blood is changed before the deposit is made, that the accumulation of certain morbid materials in the blood constitutes what is known as the scrofulous diathesis or constitution, and that their deposition in the subcutaneous lymphatic glands constitutes what we know as scrofula.

[Mr. Phillips divides the *treatment* of scrofula into the prophylactic and therapeutic, and under the first head mentions judicious assortment in marriage, and the dietetic management of infants. They ought to have a plentiful supply of fresh air, and be accustomed to take active exercise. He does not approve of infant-schools; he says,]

I know that the health of those infants, who are suffered to amuse themselves as they please during the day is better, *cæteris paribus*, than that of those children who have been for many months regular attendants at infant schools. And the reason of the difference I apprehend to be this, that in children the blood is vigorously circulated through the entire frame, by means of the exertion of the muscular system, and this exertion of the muscular system can only be maintained by providing such amusement as will keep the body in motion. The listless walk around the school-rooms, though repeated many times a day, will not quicken the heart's action, and will not warm the hands and feet. And so long as the hands and feet, and the surface of the body remain cold for many hours of every day, so long the child will have congestion of some internal organs, and a state of permanent disease is readily induced; digestion is ill performed, nutrition is defective; and if this state of things be long continued, scrofula may be the consequence.

[In the curative treatment Mr. Phillips first speaks of *iodine*. He thinks its powers have been over-rated; he says,]

In my own practice I have exhibited every form of iodine extensively in cases of scrofula, and, supposing the patient to remain exposed to the influence of the same conditions in which the disease was first manifested, and the period of the year to be that which has not been found favourable for the cure of the disease under other modes of treatment, I cannot say that I have reason to estimate the curative powers of iodine so highly as many others have done. I know that, among the out-patients of hospitals. whose circumstances remain unchanged, and who apply at the latter end of autumn or the beginning of winter, we may often exhibit iodine in every form for weeks or months without producing any sensible amelioration in the patient's condition. I know also that at the beginning of summer, a patient similarly affected and similarly treated, will, often in a few weeks, exhibit a marked improvement—but how much of this should be referred to iodine? How much to season?

Mr. Phillips, in common with all experienced practitioners, objects to the use of the simple tincture. He has found the iodide of iron a useful tonic, given in syrup, to the amount of four grains in the twenty-four hours. In whatever form the remedy be administered, he thinks it imprudent to continue its use longer than a fortnight, or three weeks, at a time. "At the end of that time the preparation should be set aside, aperient medicine should be employed, and its use should then be resumed with the same precautions. In this way, any virtues which the medicine possesses are more surely brought out, and the inconveniences sometimes experienced from its administration will be, as nearly as possible, avoided."

We have known numerous instances in which a scruple of the hydriodate of potass was taken daily for many weeks without any

perceptible effect. The only rule we have for its discontinuance is the development of catarrhal symptoms, which, in some people supervene on its administration even for a short period.

Barium, or rather the *chloride of barium* (the old muriate of baryta), is a remedy, in Mr. Phillip's opinion, little inferior to iodine.

"Barium, however," he observes, "seems to be a more certain stimulant than iodine, or rather, we might say, irritant; and, in my judgment, its use is clearly contraindicated where there is much free inflammatory excitability of the system. But in those cases where the tallow-like complexion, the pale tongue, and the languid circulation, accompanied by irritability of the mucous surfaces, are present, the virtues of the barium are often very remarkably demonstrated. I usually give it in solution, a grain to an ounce of distilled water, with ten drops of compound tincture of gentian. Of this solution, I commence with half an ounce twice a-day, and on no occasion have I exceeded three grains in the day; and up to this moment I have not experienced any check in the administration of the medicine."

The *hydrochlorate of lime* is the basis of the anti-scrofulous nostrum of Nieumann. Mr. Phillips has frequently used it in the following form: a drachm to twenty drachms of distilled water, of which a teaspoonful was taken in milk two or three times a-day. He has carried the dose up to two teaspoonfuls, but has not exceeded that dose. He is not convinced that it has any very evident action on scrofulous glands, but in moderate doses it is more generally tolerated than the chloride of barium.

The alkalies are of doubtful value; so also burnt sponge.

Cod-liver oil is useful, Mr. Phillips thinks, rather as an animal oil, than because it contains infinitesimal doses of iodine or bromine:

The conviction on my mind is, that when good is derived from it, it is to be referred to the effect of the animal oil in improving digestion and nutrition, rather than to the presence of iodine; and if Popkins's impression be correct, that he has observed quite as much good to follow the daily use of fried bacon in such cases, and if it be further true, which I by no means admit, that butchers, oilmen, tallow-chandlers, tanners, and other persons who are continually coming in contact with fatty matter, are particularly robust and well nourished, and are known to be remarkably free from scrofula, then the case in favour of the oily principle is so much the stronger. If the impression be correct, that cases are occasionally presented in which the good effects of cod-liver oil are remarkably apparent, and if the amelioration seem to concur with a much improved condition as to nutrition, I conceive myself justified in assuming that the one is the consequence of the other, without being required to frame a theory why animal oil improves nutrition.

[Mr. Phillips places very little reliance on sea-air and sea-bathing; he prefers change of inland air and cold bathing; he thinks mineral waters do little good.]

The season of the year has, in Mr. Phillips's opinion, much influence in the development and amelioration of scrofula.

"I have fully satisfied myself that scrofulous cases are most numerous and most aggravated in spring and the beginning of summer; that they are least frequent and most ameliorated at the commencement or the middle of autumn; and that at the one period they have been aggravated by the cold of winter, at the other they have been ameliorated by the warmth of summer; and this has happened when all other influences have been apparently unchanged.

When do we send patients to the sea-side? Precisely at that season when they would improve anywhere. When do we find any remedies best succeed? Precisely when the season is becoming favourable. When do we find all medicinal agents comparatively powerless? Precisely when we get no help from the season. True it is, we may take a poor child from the streets in the depth of winter, and give him good food and lodging, and his disease will be improved, and this without reference to the season; but then we have improved nutrition. But let a poor child remain at home, and we shall usually find every specific fail to improve his condition until favoured by season; and let almost any one of the unsuccessful remedies be used when the end of spring comes, and its apparent good effects will soon be obvious enough. Now, if that position be correct, it must be evident how defective the estimate of every plan of treatment is which does not include the influence of season."

British and Foreign Medical Review, July, 1846, *p.* 124.

67. — *New Compound of Chlorine, Iodine, and Mercury, in Scrofula.*

M. Rochard has communicated to the Académie des Sciences, Paris, a paper entitled "Trial of a New Compound of Chlorine, Iodine, and Mercury, in the Treatment of Scrofulous Affections."

The author reports a considerable number of cases, the results of which seem to him to prove that this composition, which M. Boutigni has made known, and designated by the name of "*iodhydrargirite de chlorure mercureux*," exercises an efficient action in scrofulous affections of the most serious character, and also in inveterate cutaneous diseases. He states that after having obtained some rapid cures in psoriasis lichen, chronic eczema, herpes, maculæ, &c., the idea occurred to him of extending its employment to the treatment of scrofula. He cites, amongst others, some successful cases of white swelling, with caries, and fistulous canals; of numerous enlarged indurated or ulcerated ganglia; of chronic ophthalmia, complicated with ulcerating keratitis; of ulcerated lupus; of goitre; and finally of large scrofulous abscesses, succeeding to an antisyphilitic treatment. In these several cases, the action of the remedy was quick and permanent, though varying in the various

forms of the diseases. M. Rochard employs the medicine externally in the form of ointment.

Provincial Medical and Surgical Journal, June 3, 1846, *p.* 258.

68.—*On Land Scurvy, produced by Eating Diseased Potatoes.*—By Dr. M'Cormack, Buncrana, Donegal.—[Dr. M'Cormack has given this name to a disease he has met with, in as much as it bears a striking resemblance to a disease thus named in the Transactions of the Medical and Physical Society of Calcutta.

Dr. M'C. believes that the cases recorded in No. 24, vol. ii, of the Dublin Hospital Gazette, by Dr. O'Brien, of Naas, as a peculiar form of land scurvy, though not so aggravated as those alluded to in the above-named transactions. Dr. M'Cormack's patient was a factory girl, 18 years of age; she was very destitute, potatoes being her only sustenance, and these of a diseased character. She first of all felt acute pain in two of her front teeth, which continued about 14 days. when it became so severe as to prevent sleep at night, and was equally intense during the day; there were also symptoms of febrile action, and severe pain in the joints and small of the back came on, and she begun to be very delirious. There was also pain in the region of the heart, and palpitation on the slightest motion. The following was her condition when Dr. M'Cormack first saw her:]

Present symptoms.—The pain in her teeth is now excessive, and has continued so for the last fourteen days; no appearance of caries in any; the gums, especially of the lower jaw, are swollen, painful, spongy, and bleed on the slightest touch; even the attempt to swallow causes an oozing of blood. On examining, I found the gums as described, the teeth loose and extremely painful; fauces and mouth inflamed, and ulcerated in patches; tongue flabby, and thickly loaded with white fur; breath horribly fœtid, great difficulty in swallowing; pulse 130, small and feeble; muscular pains excruciating; joints swollen and very painful; skin over the whole body tense, tumefied, and of a preternaturally dark colour; vibices scattered over the limbs; great prostration and despondency; constant involuntary sighing; face and head enormously swollen; countenance pallid, unmeaning, and indicating indifference of her fate; no sleep, from the pains of the joints. The bowels had been obstinately constipated for several days, and the mother had given her a dose of senna and salts, the evacuations caused by which brought on such extreme exhaustion that she thought she was dying, having had several fainting fits in rapid succession Urine scanty and high-coloured; the belly hard and dropsical; heat of skin intense; has had no medical advice. The two teeth in which the pain commenced have split in two perpendicularly.

Of the treatment, I shall at present say nothing more but that it consisted of all the remedies, both medicinal and dietetic, (as far as circumstances would allow), which will be described as having been

used in the disease as it appeared in India; and all failed to produce more than temporary relief.

Remarks.—On the first view I took of this case, I was led to think, that, perhaps, from the situation in which she was placed, (working in a factory, where there was an indiscriminate mixture of both sexes), she might have fallen a victim to some disease, to cure which, not wishing to expose herself to the wrath of her parents, she had taken mercury clandestinely, and that, therefore, she was labouring under the usual effects of this mineral, aggravated, as we are all aware it can be, by want and proper care. This view, on the minutest investigation, I was convinced was erroneous. I therefore began to turn in my mind the extraordinary features it presented, and its resemblance in every point to that once formidable scourge of our navy, the sea scurvy. I then remembered having met, in the eighth volume of the *Transactions* before mentioned, two very interesting papers on a form of land scurvy which attacked our native troops, in several parts of India, in the year 1834. Having the volume in my possession, I referred to it for information, and I was most forcibly struck with the faithful likeness between the disease, as therein described, and the case before me. Having also, some days previously, read with great interest the cases described by Dr. O'Brien, I turned to the number of the *Gazette* which contained them, and after a careful comparison of their symptoms with those mentioned in the volume alluded to, I was led to what I believe is a correct conclusion—namely, that the disease called by Dr. O'Brien a peculiar form of gastro-enterite, was nothing more nor less than the land scurvy of India.

[Dr. M'Cormack quotes the testimony of Dr. Macnab, and Mr. Rose, of Calcutta, to show that the disease had its origin in deficient and unwholesome food; and then proceeds to give the symptoms of the disease as met with in India. There is a striking similitude in the symptoms. The quotation is from an account of the disease by Dr. Macnab, who says:]

The following was, perhaps, the more regular succession of symptoms. For the first few days the patient felt some soreness in the gums, which might be seen to push up, puffy and congested, between the incisor teeth. There was languor, and, perhaps, a paroxysm or two of fever, or, at times, regular evening accessions. Day after day the blunt, projecting edges of the gums grew more prominent, became soft, and soon assumed a spongy, hæmorrhagic character; the fauces, mouth, and tongue got pallid, and the breath emitted a heavy feculent odour. Now the pulse increased in frequency throughout the day, irritative fever set in, tormentimg pains were developed in the muscular (more rarely in the tendinous) portions of some one or more extremities, such as the leg, arm, or thigh; seldom in more than one member, unless when the cases were of considerable aggravation. These sites became tumefied, exceedingly tense, non-elastic, and having over them a colour pre-

ternaturally dark. They were more or less diffused, sometimes oecupying the whole circumference of the limb, as the leg from the knee to the ankle, which would have a shining polished appearance—vibices occasionally eame out in other places, without pain or swelling. In this state the patient's flesh and strength wasted rapidly; the teeth imbedded in the flabby vegetating gums felt loose, and were unfit for the purposes of mastication. Horrid fœtor now proeeeded from the mouth; despondency took active possession of the mind. There was no sleep, from intense suffering, nor was there any appetite. * * *

A page 121, he thus proeeeds,—"Blotches frequently oecupied the thighs and hips, that occasioned little or no ineonvenience. These were of a lighter colour, and of a slightly reddish tinge, or flesh-coloured. Neither the one nor the other ever lapsed into uleeration under my observation. Sometimes discharges of blood to considerable amount took place from the nose, never, to my knowledge, from any other cavity. From the gums very slight irritation brought blood, in some cases very copiously, at all times to some extent. * * * In proportion as the complaint put on a milder aspect, and that it became less prevalent, the mouth was much seldomer the seat of disease; in many not at all, the only symptom being the pains and swelling in the extremities so often mentioned as prominent symptoms throughout. * * * * The secretions in most cases were not materially altered. Seldom was there any eonstipation, neither were the bowels much relaxed, unless medieine happened to be administered with too free a hand, in whieh case they might become troublesome. The urine was always high-colourod, and strongly odorous, but I do not know that it possessed any other remarkable qualities.

Let us now briefly refer to Dr. Ross for his statement of the symptoms:—"The patients were, in the first instanee, admitted with severe pains in the inferior extremities, particularly about the ankle-joints, gums more or less spongy, and, in many instances, completely coneealing the teeth from view; pulse considerably accelerated, loss of appetite; occasionally considerable intermissions of pain oecurred, but, in almost every case, a great inerease of pain oeeurred during the night; many patients had discoloured patches on the legs, and, in the worst cases, great swelling and hardness generally about the gastrocnemii muscles; in some, the subeutaneous glands of the legs were enlarged: as the disease advanced, diarrhœa supervened, and was the immediate eause of death in most of the fatal cases.

[The only remedy which seemed of a eurative eharacter in this dreadful malady, was change of air; therapeutie and dietetic measures exercised little control over it. The remedies Dr. Macnab employed were the mineral and vegetable acids, preparations of iron; the bitters, as cinchona, chiretta, wine, beer, &e. Dr. Macnab eonsiders death certain unless a change of elimate is made; he says this is the "ultima et unica remedia."

Dr. M'Cormack's patient gradually recovered under a generous diet, with bitters, as quinine, &c.]

Lancet, July 25, 1846, *p.* 91.

69.—*On Hydropathy.*—By Dr. Forbes.—[The Editor of the British and Foreign Medical Review, after a careful consideration of the whole subject, comes to the following conclusions; and we particularly direct attention to his first, as it embodies fairly the intention and practice of the late Dr. Currie in the use of cold water in the treatment of the general febrile paroxysm. He says:]

1. We should be glad to see Dr. Currie's practice revived, (for the sake of experiment, at least,) in all its boldness, for the suppression of the general febrile paroxysm. On carefully looking over the evidence published by Dr. Currie and his contemporaries, it is impossible to deny that they attained a larger amount of success in treating fever by water than other practitioners have done by other means. We have already pointed out how their practice has been misunderstood by modern writers. But, while we regard thisp ractice as well adapted for treating general fever, we find no proof that it is competent to meet the dangerous local complications with which fever is so often accompanied. These complications may reasonably be expected less frequently, when the early treatment of fever is rendered more efficacious. But when they do occur, we find nothing in hydropathic writers to show that lancets, leeches, blisters, &c., can be dispensed with.

2. In a large proportion of cases of gout and rheumatism the water-cure seems to be extremely efficacious. After the evidence in its favour accessible to every body, we think medical men can hardly be justified in omitting—in a certain proportion of cases, at least—a full trial of it. No evidence exists of any special risk from the water practice in such cases.

3. In that very large class of cases of complex disease, usually known under the name of chronic dyspepsia, in which other modes of treatment have failed or been only partially successful, the practice of Preissnitz is well deserving of trial.

4. In many chronic nervous affections and general debility we should anticipate great benefit from this system.

5. In chronic diarrhœa, dysentery, and hemorrhoids, the sitz-bath appears to be frequently an effectual remedy.

6. We find nothing to forbid a cautious use of drugs in combination with hydropathic measures. On the contrary, we are convinced that a judicious combination of the two is the best means of obtaining the full benefit of each. The water-cure contains no substitute for the lancet, active purging, and many other means necessary for the relief of sudden and dangerous local maladies. The banishment of drugs from his practice was necessary, and perhaps natural, on the part of Preissnitz: the like proceeding on the part of qualified

medical men superintending water-establishments in this country, evinces ignorance or charlatanry, or both.

7. With careful and discreet management, in the hands of a properly qualified medical practitioner, the water-cure is very rarely attended with danger.

8. Many of the principal advantages of hydropathy may be obtained in a private residence, with the assistance of ordinary moveable baths. Therefore, it can easily be brought under the direction of the regular medical practitioner.

9. In many cases, however, it is evident that what may be termed the mere *accessories* of the water-cure, are of extreme importance in bringing about a favourable result; and these accessories are frequently not available—or available in a very inferior degree—in ordinary practice. Among the more important of these accessories we may mention the following as having relation to most of the chronic cases treated in hydropathic establishments: 1, relief from mental labours of an exhausting or irritating kind, from the anxieties and responsibilities of business, from domestic irritations of various kinds, from mental inaction or ennui, &c.; 2, change of locality, air, scene, society, diet, &c.; 3, the fresh mental stimulus involved in the almost constant occupation of the patient's time, in the performance of the numerous and various dabblings, paddlings, sweatings, washings, drinkings, rubbings, &c., imposed by the water treatment; 4, the frequent and regular bodily exercise taken in the open air, or within doors; 5, the powerful mental stimulus supplied by the confidence generally reposed by the patients in the means employed, and by the consequent hope, alacrity, cheerfulness, &c.; 6, the total abandonment of vinous and other stimulants, and of drugs,—all of which have, in a large proportion of cases, been tried and found, not only useless, but probably, productive of disadvantage.

10. A certain and not inconsiderable portion of the benefits derived from hydropathic establishments are, however, attainable without them, by other means, as by travelling, &c., &c. For example, we suspect that many of the most striking results witnessed in such establishments, as in the case of Sir Edward Bulwer Lytton or Mr. Lane, would have probably been obtained, if the patients had chosen to hire themselves, and had worked as agricultural labourers, in a dry, healthy district, and had lived on agricultural fare, sufficiently nutritious in quantity and kind, for a sufficient length of time.

11. Notwithstanding the success of the founder of hydropathy, its practice by non-professional persons can neither be fully advantageous nor safe. At the same time, it is true that very little experience is necessary to enable an educated medical man to acquire sufficient insight into it for purposes of practice. Many of the best hydropathic physicians have, in the first instance, devoted very few weeks to studying the subject in Germany.

12. Many advantages would result from the subject being taken

up by the medical profession. The evils and dangers of quackery would at once be removed from it. Its real merits would soon be known. The tonic portion of its measures might then be employed in conjunction with special remedies of more activity, which, no doubt, would often prove exceedingly beneficial.

13. The benefits ascribed to hydropathy, but arising indirectly from the abandonment of drugs, vinous and other stimulants, &c,, may certainly be obtained without sending patients to Graeffenberg.

14. Finally, it must always be remembered that the distinction between quacks and respectable practitioners is one, not so much of remedies used, as of skill and honesty in using them. Therefore, let our orthodox brethren be especially anxious to establish and to widen, as far as possible, this distinction between themselves and all spurious pretenders.

British and Foreign Medical Review, Oct., 1846, *p.* 457.

70.—*On Melanosis.*—By Holmes Coote, Esq., Surgeon to the North London Ophthalmic Institution.—[There is an error in applying this term to all tumors and deposits of a dark colour, no matter what their character or situation.

Melanotic swellings appear to be pigment-coloured morbid products, very variable in character, especially cancerous. Mr. Coote thinks the character of this affection, as described by Mr. S. Cooper, is calculated to put it in an improper light. He says:]

Chemical analysis by MM. Lassaigne and Foy, has shown that melanotic matter differs but little from blood in its ultimate elements. A solution of chlorine will bleach the black mass from a melanotic eye, consequently, it differs essentially from the carbonaceous deposits in the lungs of miners. This statement receives further confirmation from microscopical examination.

If a portion of melanotic matter be magnified from 5-800 diameters, it will be found composed of—1st. Nucleated cells of irregular form, generally somewhat flattened, oval, bean-shaped, club-shaped, or caudate, containing pigment granules in variable quantity, and in a state of molecular movement. 2ndly. Of free granules. 3rdly: Of a delicate fibrous stroma. 4thly. Of oil globules. Some additional fibres may be derived from the organ in which the tumor is placed. None of the surrounding parts show the slightest trace of inflammation.

It appears that the growth of the tumor consists—1st. In the formation of the parent cells. 2ndly. Their rupture when fully matured, and the escape of the nuclei and pigment granules. 3rdly. In the development of the nuclei into complete cells. The granules, when free, are constantly undergoing absorption. If, from any cause, the development of the cells be arrested, the rapid removal of the free pigment granules will lead to considerable diminution in the size of the tumor.

Melanotic tumors, then, do not consist of an unorganized deposit;

the cells have their periods of growth, maturity, and decay; neither can they be regarded as mere accumulations of pigment, for the cells have a totally different form from those of healthy choroid.

In order to establish the view that melanosis, when fatal, is combined with the elements of cancer, it is necessary to define what these cancerous elements are. In the sooty-black non-vascular patch, characterizing cutaneous melanosis, (an affection which Mr. Lawrence regards as malignant,) I never could discover any structural affinity with cancer, medullaris, or fungoides. It is true, that cancerous tumors may be sometimes coloured by pigment deposit, but that is no proof of the patient being affected with melanosis. The cavity of the globe may be occupied by a mass partially black and partially white, or of reddish hue; but it must be remembered that diseases of different characters often manifest themselves in the same tumor. Melanotic tumors occasionally present a spotted appearance, some parts being of a lighter colour than others; but this may depend upon variations in the quantity of the pigment granules contained in the cells.

The constant occurrence of primary melanosis in situations where, in the healthy state, pigment is often deposited; the chemical composition of such tumors; the appearances which they present both to the naked eye or when placed under the microscope, warrant the inference that this is a disease *sui generis*, manifesting itself by the accumulation of pigment cells in a morbid state.

It is difficult exactly to define the meaning of the term "malignant." The limits of this paper will not allow me to inquire whether it may be correctly applied to the disease now under consideration. Such a question obviously depends upon the sense in which the word is used—a point far from being clearly settled.

In man, however, melanosis is a rapidly fatal disease. When once fairly established, whether the primary tumor be extirpated or not, the patient dies, in the course of one or two years, of accumulations of similar character in all parts of the body.

In the horse the disease is not so fatal. Mr. Spooner has known an animal live for ten years after the removal of the primary tumor, being fit for work during the whole time.

[In the human subject, melanosis is most frequently met with from the 40th to the 60th years. Mr. Coote goes on to say:]

Melanosis of the eye commences between the choroid and retina: the former membrane remains of its natural consistence; the latter is compressed, pushed to one side, or to the centre of the globe, but not otherwise altered. In the earliest stage, the eye becomes amaurotic, without obvious cause; frequent attacks of inflammation come on; but from five to eight years may elapse without any morbid change being observable. Then, if the growth proceeds from the posterior part of the eye, the retina is pushed forwards; the vitreous humour is absorbed; the posterior capsular vessels are

destroyed, and the lens, rendered opaque. protrudes, together with the iris, into the anterior chamber. The conjunctival vessels become enlarged, tortuous, and distended with blood; the sclerotic coat yields unequally, and presents an irregularly lobulated appearance, resembling staphyloma. Sudden attacks of inflammation, attended with pain and chemotic swelling, come on; the sclerotic coat gives way, either a few lines from the margin of the cornea, or near the entrance of the optic nerve; and the melanotic mass, freed from restraint, protrudes, covered by conjunctiva, from the eyeball. Primary melanotic tumors of the skin are either cutaneous or subcutaneous. The two commonly occur together.

Cutaneous deposits (*mélanose membraniforme*, Andral) appear as smooth black spots, with a defined margin, varying in size from a pin's head to a shilling, lying upon the cutis, and covered by the cuticle, which is not raised. They frequently commence around a congenital spot; spreading laterally, two or more may become confluent.

Subcutaneous deposits (*melanose tuberiforme*, Andral) exist as dark-coloured tubercles, varying in size from a pin's head to a small orange. Invisible when small, they distend the skin as they acquire bulk, and appear as prominent blueish-black spots; the colour deepest in the centre gradually fading away to the circumference.

The integuments at last give way, and a black mass protrudes; the surrounding vessels pour forth some blood, and a dark-coloured fluid flows from the open surface. If the mass be removed wholly, by the knife, or partially, by ligature, the wound will heal, but the disease inevitably returns, either in the cicatrix or some distant part. The cicatrization of wounds, after the partial removal of melanotic tumors, in the horse, has been noticed by M. Leblanc, who observes, "It is not always thus in cases of scirrhous or encephalous tissues. When, in operating upon such, they are not completely excised, they become purulent, or ulcerate, and thus prevent the wound from healing.

The primary disease advances with unequal rapidity. but secondary accumulations generally form before the primary tumor has attained very considerable size. The absorbent glands are rarely affected. The development of internal disease is marked by general lassitude, and undefined pains over the trunk and limbs; the rest is disturbed; the appetite fails, and emaciation commences. The liver, rapidly increasing in size, projects with irregular surface from the lower margins of the ribs, and distends the abdomen; dark-coloured matter is voided by the bowels or ejected from the stomach; the diarrhœa, if arrested, alternates with violent and uncontrollable pains in the head, and the patient dies exhausted, but retaining his faculties to the last.

Upon examining such a case after death, melanotic matter is found accumulated in every part of the body, except, perhaps, the cornea, synovial membranes, and tendinous structures. Upon

free surfaces it is deposited in layers, (melanose membraniform); in other parts it is accumulated in masses, (melanose tuberiform). which, when cut open, are softened and almost fluid within. They have no distinct cyst. Secondary accumulations often attain an enormous size. The liver of a patient, examined by Mr. Lawrence, weighed seventeen pounds and a half. "The greater part of the mass," says Mr. Lawrence, "was melanotic, yet the gall-bladder was full of healthy bile. The ovaries were converted into irregular lobulated masses, about eight inches in length, which retained no trace of natural structure. They consisted of a thin but dense cyst, filled with melanotic structure, of soft consistence but of the deepest dye. The ovaries and a cast of the liver are preserved in the museum of the Royal College of Surgeons.

The disease sometimes extends from the orbit to the cavity of the cranium; a large black mass forms at the base of the brain; a dark-coloured sanies flows from the orbit, and the patient dies with symptoms resembling apoplexy.

It has been commonly stated, that by the early and complete removal of a melanotic tumor the patient is afforded a good chance of permanent cure. This opinion has been recently supported by Dr. Argyle Robertson, in a short pamphlet upon melanosis. My own observations lead me to a totally opposite conclusion. Thoroughly convinced of the inefficacy of any operation in radically removing the disease, I doubt much whether we can affirm that it even prolongs life. Patients may fairly be recommended to submit to the removal of superficial tumors, which, by their position or size, produce inconvenience; but the more serious operation of extirpation of the eye ought never to be undertaken, except at the patient's express desire, and after he has been fairly made acquainted with the circumstances of the case.

Lancet, Aug. 8, 1846, *p.* 142.

71.—*Case of Sweating Sickness.*—By Dr. J. A. Lawrie, Surgeon to the Glasgow Royal Infirmary.

[This patient, about 60, was subject to biliary derangement. One of these attacks was brought on April 28, 1846, by some bad porter, and on May 1, he had severe pain around the umbilicus, followed by bilious vomiting. On the night of the 2nd, he slept comfortably till half-past one, A.M. of Sunday, when the *most violent perspiration came on and remained unchecked till six*, A.M., *and rendered all the bed-clothes dripping wet as if they had been dipped in water.* At ten, A.M., severe rigors followed, then cramps in the limbs and intense pain in the abdomen, for which a large blister was applied; he was very weak and restless; pulse small and easily compressible; voice husky; choleric; hands bleached; cold perspiration, especially on the head; countenance sunk; intense thirst and desire for cold water; with great feeling of internal heat. These symptoms increased in importance and severity until Monday, when the pulse was almost imperceptible; constant restlessness and tossing; no

urine. *In a word, he had all the symptoms of a patient about to rally from an acute attack of cholera.* Brandy, cold water, and beef tea had been ordered, but he refused everything except cold water. *These with ice or iced water he was ordered to any extent short of causing vomiting.* From this time he began to rally, and was able on the next day (the 4th) to rise and shave himself. Symptoms of some importance, however, continued on the 5th; vomiting of a decidedly bilious character and a comatose state of the brain: 6th. the same condition of brain with severe vomiting and a copious vesicular eruption on the nose and lips. These symptoms became more mitigated, and at length the remaining part of the case was that of a mild but tedious secondary fever, from which the patient did not recover until the 10th of June.

The points of interest in this case appear to be—]

1. The *amount* of perspiration. I have never met with any case in which the same amount of fluid was discharged by the skin in the same brief period.

2. Its immediate effect. I have never before seen collapse produced by perspiration. In this case it was complete, the patient being for some time pulseless. It is worthy of remark, that the collapse was less sudden than in cases of acute cholera. It did not reach its acme till nearly twenty-four hours after the excessive perspiration had ceased.

3. The secondary symptoms. These were precisely those of some of the forms of the secondary fever of cholera, viz., the absence of urine for forty-eight hours; dark-grey stools, but more fetid; tendency to a sleepy stupor; and perhaps the most characteristic of all, the grass green vomiting. In connection with this last symptom, I may mention that I sent some of the matter vomited to Dr. A. Buchanan, who took great interest in cholera cases in 1832, for the purpose of ascertaining if the opinions recently broached by Dr. Golding Bird and others, as to these green discharges being blood, and not bile, are correct. I believe his impression is, that these opinions are erroneous.

4. This case throws some light on the nature and symptoms of cholera, and tends to confirm the opinions which I formed in 1832, viz., that the diagnostic and essential symptom of cholera was the rapid discharge through the internal mucous membranes of the serous part of the blood, and that all the subsequent symptoms were referable to the shock caused by the quantity of fluid lost, to the deteriorated condition of the blood in consequence of this discharge, and the injury done to the mucous membranes by its forced passage through them. If any doubt existed as to which of these conditions the green vomiting (choleric stage as Dr. A. Buchanan styled it) is referable, this case should set it at rest, as showing that profuse serous discharge causing collapse is followed by inordinate secretions of green bile, whether the skin or the intestinal mucous membrane be the organ, through which the primary discharge flows.

5. I have asked myself, is this a sporadic example of the "sudor Anglicanus" "sweating sickness" of the 15th and 16th centuries, and I am inclined to reply in the affirmative. Dr. Caius in his graphic account of this disease, dwells more on the theoretical than the practical part of the subject, and says little or nothing of the secondary symptoms. He maintains, however, that it was a fever, "neque enim morbus iste sudor tantum, ut vulgus putat, sed febris." The perspiration never exceeded twenty-four hours, "sudor insequens, sed non excedens horas viginti quatuor." The danger always extended over the same period, "sed nemo * * ante horas viginti quatuor * * periculo liberatum se gloriari potuit." Many of the symptoms were identical. The great heat, "calebant primo, pqstea ardebant." "Sitis ingens, jactatio inquieta." Marcor et inexpugnabilis pene dormiendi necessitas." "Cor, jecur atque stomachum male morbus habuit." "Aliis nausea, aliis vomitus erat."

I find that Forestus particularly insists on the abdominal pains and cramps, "tensiones sub hypochondriis." "Dolores in renibus ac spina dorsi supra modum vehementes." Contractiones pedum ac manuum." According to him the pulse was "pulsus concisus," the urine, "quibusdam licida et valde corrupta." He limits the duration of the perspirations to a shorter period than Caius, recovery or death taking place in five, ten, or twelve hours, few going on to twenty-four, "nemo tamen ad horas viginti quatuor pervenerit.

Monthly Journal of Medical Science, Oct. 1846, *p.* 241.

72.—*Aphonia of Five Months' Duration, successfully treated by the Inhalation of the Vapour of Iodine; Quinine and Iodic Acid being given at the same time.*—By E. Monks, Esq., Norwood.—[The patient was placed under medical care, January, 1846, for catarrh, which terminated successfully, except for the entire loss of voice; for which she was treated with emetics. aperients, mercurials, iodide of potassium, cinchona, and astringent acidulated gargles, until June 25th; and, on being sent to the sea-side, the inhalation of the vapour of iodine, from a Woulf's bottle, for fifteen minutes twice a-day, and the following mixture:]

℞. Quinæ disulph., gr. j.; acid iodic, gr. iij.; tinct. aurant, ʒss.; syr. aurant, ʒj.; aq. distillat ʒviss. M. ft. haust. ter die.

July 2nd, Voice audible. 10th. Voice natural, and enunciation full and clear: after this, the voice continued permanently good.

Medical Times, Oct. 3, 1846, *p.* 14.

73.—*On the Internal and External Employment of Nitrate of Silver.*—By Dr. Heller.—[The diversity of opinion with respect to the therapeutical action of nitrate of silver, has been so great as to induce Dr. Heller to institute inquiries on the subject for him-

self. He performed experiments to ascertain to what extent it is taken into the secretions and excretions, and also to ascertain what was the effect of its direct addition to the gastric fluid; the following are the results.]

In several cases of epilepsy nitrate of silver was administered internally in doses varying from three to ten grains daily; thus one girl took ten grains daily, and a lad, aged thirteen, twelve grains daily for three months. In the latter case, therefore, about two ounces and a quarter were administered altogether, yet without the disease being in the slightest degree mitigated, or any other effect on the system being produced. In none of the cases did the skin become in the least discoloured. The blood was several times examined in many of the cases; it presented the character commonly found in the blood of epileptics, especially an increase in the quantity of albumen; but in none of the examinations was there a trace of silver found.

The urine, also, contained not the slightest trace of silver; it was clear and without sediment, possessed its ordinary quantity of chloride of sodium, and contained no ammonia. Since the urine, therefore, contained chloride of sodium, no silver could have been present in it, else would the chloride of silver have been precipitated, and detected as such, which it was not; and since the urine contained no ammonia, which is a solvent of chloride of silver, so also could none of the chloride of silver have been retained in solution; moreover, after combustion and careful examination of the ash, not a trace of silver could be detected. The fæces, Heller says, contain, in the form of chloride, the whole of the silver which has been administered. To prove this, nothing more is necessary than that the fæces should first be reduced to ashes in a platinum crucible, and then the mineral salts which remain dissolved by a little dilute nitric acid; after this the chloride of silver is left behind, and may be weighed and estimated; it is completely soluble in ammonia.

Heller found that when he mixed nitrate of silver with the gastric fluid, chloride of silver was at once precipitated, for the gastric fluid contains a large quantity of the chlorides of sodium, potassium, and calcium; when ten grains of the nitrate was added to an ounce of the gastric fluid, the whole was precipitated in the form of chloride. From this fact Heller concludes, that so soon as nitrate of silver is taken into the stomach it is precipitated as chloride, which, being an insoluble substance, passes through the entire length of the intestinal canal, and appears as such in the fæces; the results of examination of the blood and urine also show that none of the silver enters into the blood. This renders easily intelligible the circumstances that such large doses of nitrate of silver may be taken without any observable effect on the system resulting, yet, according to Heller, leaves unexplained the statements of some writers, who describe the skin of patients who have employed the

nitrate of silver for some time, as becoming brown, or even black; he seems inclined to doubt the truth of these statements, inasmuch as they are opposed to the results of his experiments, and to the fact of this discolouration never occurring in any of the cases which he noticed.—*Heller's Archiv.*

Medical Gazette, July 24, 1846, *p.* 170.

74.—*Mode of giving Mercury to Children.*—By Sir B. Brodie, Bart.—[Sir Benjamin considers inunction especially applicable in giving mercury to children. He uses the ointment as follows:]

I have provided a flannel roller, on one end of which I have spread some mercurial ointment—say a drachm, or more; and I have applied the roller, thus prepared, not very tight, round the knee; repeating the application daily. The motions of the child produce the necessary friction; and the cuticle being thin, the mercury easily enters the system. This causes neither griping nor purging; in a child it does not even in general cause soreness of gums, but it cures the disease. Very few of those children ultimately recover in whom the mercury has been given internally; but I have not seen a single case in which this other method of treatment has failed.

[We cannot say too much in favour of this mode of administering mercury to children. Since Sir B. Brodie's recommendation of inunction in adults (see Retrospect, vol. ix, p. 154), we have repeatedly tried its effects in children, knowing how very unsatisfactory was its exhibition by the mouth, when the system was required to be affected. We cannot but suspect that its failure in cases of acute hydrocephalus, in children, is often owing to its powerless effects when given by the mouth.

In a case which lately occurred in our own practice, its effects seemed to be very evident and surprising. It was one in which some of the most urgent and fatal symptoms were present; such as very dilated pupils, constant convulsions, hemiplegia, and more or less stertorous breathing; in short, so violent were the symptoms, that we considered the case perfectly hopeless; but on reflecting on Sir Benjamin's method, we ordered the strong mercurial ointment to be smeared on each leg, every 12 hours, and covered with a stocking made to tie lightly above the knees. The symptoms soon began to abate, and by following this up with small doses of the iodide of potass, frequently repeated (gr. j., every three or four hours), the head symptoms vanished.

In a second case, the same set of symptoms were approaching, but were stopped by the same mode of treatment. We would, therefore, recommend our medical brethren to attend more to *mercurial inunction* in diseases of children.]

British and Foreign Medical Review, July, 1846, *p.* 169.

75.—*On the Effects of Subsulphate of Mercury (Turpeth Mineral) as an Emetic.*—By Dr. HUBBARD, U.S.—[There are certain diseases, such as croup and scarlatina maligna, and there are certain conditions of the system, as great prostration, wherein there is insensibility of the stomach to the action of the ordinary emetics, and we are obliged to give them in such doses as induce a cathartic action, when the simple object we have in view is procuring vomission. Dr. Hubbard illustrates this position by relating a case of spasmodic croup. He observes:]

I was called in the night of February 5, 1845, to see Miss C—— aged about 12 years. In the three preceding nights, at about the same hour, she had been seized with paroxysms, similar to the one in which I found her—each one continuing several hours, each of progressively increased severity, and each leaving her able to be about, during the day, with respiration so easy as to excite no alarm, and only a slight croupy cough. I found her with breathing extremely quick, laborious, and stridulous, the chest heaving with convulsive throes, the countenance livid, the eyes wild and distracted, extreme jactitation, the pulse thread-like, vaccillating, and too rapid to be counted; the extremities, up to the body, of an icy coldness; in short, the patient appeared like one in the last agonies. Strong rubefacients were immediately applied to the whole surface, sinapisms to the spine and extremities, and heated blankets to the lower limbs. As soon as she could swallow—for deglutition was at first extremely difficult—five grains of the *turpeth mineral* were given at once, and followed with the free use of mustard whey; this not vomiting her, after fifteen minutes I gave her five grains more, immediately upon swallowing which vomiting commenced, and continued smartly for more than an hour. During this operation, and for some hours after, a free use was made of a decoction of seneka, as a stimulant diaphoretic. Her respiration began to improve immediately on vomiting, and at the end of about four hours it was comparatively good; the skin open, natural warmth restored, and the circulation equalized. The patient was then put upon the use of the following powder:—℞. Pulv. ipecac. comp., scr. j; hydrarg. chlord, scr. j; camphor pulv., grs. xij; M. ft. chart. No. vj. One to be taken every four hours; a free use to be made of the decoction of seneka in the intervals, and the bowels to be moved after twenty-four hours.

The emetic did not produce purgation. No paroxysm of difficult breathing returned. In forty-eight hours my attendance ceased. I know of no other emetic substance that would have effectually met such a case. Ipecacuanha, sulphate of zinc, &c., would have proved too feeble at best; tartarized antimony would, I conceive, have been hazardous, from its nauseating and sedative effect, setting aside the uncertainty of its procuring emesis in any reasonable dose, and the almost certainty of its producing exhausting catharsis. I repeat, then, that in this form and conditon of croup, my

experience furnishes me with no substitute for the *turpeth mineral* as an emetic.

It has seldom, if ever, failed to vomit efficiently, when administered in a proper dose, in any of the various conditions of the stomach, and of the system, in which I have given it. It usually acts in ten or fifteen minutes, and the dose should be repeated at those intervals, if the first fail, which rarely happens. In efficiency and revellent power, it is not, perhaps, quite equal to the tartarized antimony; it is, however, vastly superior, in these respects, to ipecacuanha, or any other substance known to me. In safety, it is greatly superior to antimony. Its emetic operation usually continues from an hour to an hour and a half, accompanied and followed by none of the distressing nausea, prostration, and depletion of antimony; but, on the contrary, leaving the patient with the invigorated feeling arising from equalized warmth and circulation. In its emetic operation it has seldom, never, in my recollection, been accompanied or followed by catharsis. I have never known it to be violent, nor otherwise than entirely safe in its operation, although I have given it in much larger doses than are usually directed; nor have I ever seen salivation follow its use as an emetic. So safe do I consider it, that in urgent cases I have not hesitated to put my patient under its full emetic operation two or three times within twenty-four hours; nor have I seen ill consequences result from such practice. I am inclined to think that the dose should be somewhat larger than is usually recommended. From two to three grains may be given to a child two years old, and repeated in ten or fifteen minutes, until emesis is produced. If the first dose fails, the second usually acts as soon as it touches the stomach.

Provincial Medical and Surgical Journal, June 24, 1846, *p.* 288.

76.—*Observations on Colchicum.*—By M. Donovan, Esq.—[Mr. Donovan thinks the drying of the bulb interferes with its powers. Dr. A. T. Thomson says, "The acrimony on which its virtue depends, is partially dissipated by drying and long keeping, and completely destroyed by any heat above 212.°" The acetous extract, also, must be in a great measure destroyed, unless a steam-bath be employed. The vinum colchici of the three British pharmacopœias, is made from the dried bulbs, and therefore must be of inferior efficacy.]

I believe the most efficacious preparation of the bulb is the wine produced from it in its recent and and undried state, as recommended by the late Sir Everard Home, who published three papers on it in the *Philosophical Transactions* for 1816 and 1817. In these papers he has given an account of its preparation, and of its effects therapeutic and physiological. He directs two pounds of the recent bulbs, undried, to be macerated with twenty-four ounces of sherry wine in a gentle heat for six days.

He convinced himself, by repeated trials, that this vinum col-

chici operates in every respect like the eau medicinale in removing the pains of gout. In his own case the symptoms disappeared in six hours after taking the remedy; but with other persons they did not go off for twelve hours, or even twenty-four. He found that, like the eau medicinale, it diminished the frequency of the pulse 10 or 20 beats in a minute, in twelve hours after taking the dose; and this he considers the criterion by which we may ascertain that the constitution is under its influence.

With regard to the *modus operandi* of colchicum, he conceives that it produces its effects on the circulation, and not on the stomach. This he ascertained in the following manner. Thirty drops of colchicum wine were injected into the circulation, through the jugular vein, of a dog. The pulse increased 40 beats in a minute, and intermitted: in seven hours, he had a motion, and was well. In another experiment, the same dog got a double dose by the jugular, which produced much languor; but he recovered.

He says that the effects on the dog were the same as on himself. In a violent fit of gout, he took sixty drops of eau medicinale, which he considers the same as wine of colchicum. He soon became hot and thirsty; in three hours, the pain was much diminished: in seven hours, nausea came on: his pulse, which was naturally 80, fell to 60, and intermitted: and he became languid; but next day he was quite recovered.

In another experiment Sir E. Home injected 160 drops of colchicum wine into the jugular of a dog: the animal instantly lost all power of voluntary motion; the breathing became slow; and the pulse was scarcely to be felt. In two hours, the pulse rose from 80 to 150. In five hours after, he became very languid, and the pulse was very weak: he vomited some bloody mucus and died. The stomach and duodenum were found in a high state of inflammation. These facts Sir E. Home conceives to prove that the effects are exerted on the circulation, and not on the stomach, in the same way as every poison is known first to enter the circulation, before it specifically affects particular parts.

At the suggestion of Sir E. Home, these experiments on dogs were repeated, with eau medicinale in place of colchicum, by Mr. Gatcombe: and the results were nearly the same; which is a still further evidence of the identity of these two medicines.

The colchicum bulb, Sir E. Home says, contains both extractive and mucilage, both of which, wine, in the first instance, takes up; but when the liquor is strained and allowed to stand, a considerable deposit is almost immediately separated.

This deposit he found to be not only active but virulent; six grains of it given to a dog, by the mouth, produced vomiting and purging which continued for twenty-four hours, the latter evacuations of both kinds being tinged with blood.

Coinciding with the supposed identity of the eau medicinale which also lets fall a deposit, Sir E. Home concludes, from some experiments, that this remedy, when it contains the deposit sus-

pended in it, produces double the irritation on the stomach and intestines that the clear vinum colchici does. He found that in an instance where he took a dose of eau medicinale, without having shaken the bottle, it was mild in its effects; but that the other half, which contained the deposit, when swallowed, on a different occasion, was very severe.

When the deposit is separated from wine of colchicum, he found that it by no means becomes inert. On the contrary, the filtered wine cured a person, on whom it was tried, of a fit of the gout, as well as if it had been in it.

These facts are of great importance, and require to be attended to in the use of this medicine; for we can separate the vomiting and purging portion from that portion which only exerts a specific action on the gout, by removing the deposit from the eau medicinale or colchicum wine, according to the conditions of the patient's case; and this is more necessary in the use of the eau medicinale, as its violence has in some cases proved fatal.

The sale of eau medicinale was some years since prohibited in France on account of a nefarious use to which it had been applied.

The deposit is, most probably, as Sir E. Home and Mr. Brande suppose, a substance analogous to the deposit which settles from the juice of the wild cucumber named elaterium. This once separated, the juice becomes, like the filtered colchicum wine, mild in its operations.

Sir Joseph Banks, convinced by the evidence contained in these papers, of Sir Everard Home, that the vinum colchici, from which the deposit has been removed, must be a less hurtful medicine than the eau medicinale, thought it a duty to himself and the public to make trial of it. When the gout in his left hand and in the joints of that side of the body was very severe, he allowed Sir Everard Home to give him ninety drops of the vinum colchici, and found that the symptoms of gout were sooner and more completely removed than they had ever been by the eau medicinale of which he had experience during seven years, having taken it regularly, and kept a regular account of the doses, their effects, and the intervals between them.

When the variable strength of the different preparations of colchicum, arising from age, climate, soil, season, and manipulation is considered, it becomes a question whether it might not be better to reject them all, and to introduce exclusively into the materia medica the active principle of the plant. Indeed, this idea has been already acted on in Italy. Professor Quadri recommends the employment of a proximate principle discovered by him in colchicum, which he calls colchicina, and which he found most useful in gout, and less inconvenient than the bulb. The production of known effects from a known dose would thus be as certainly insured as in the case of any other medicine. Another advantage would be, that, inasmuch as the antarthritic powers of the bulb cannot be always brought to bear on the disease on account of the veratria, which

Pelletier and Caventou proved it to contain, we could then increase the dose without any second source of apprehension.

Colchicina possesses great energy. MM. Geiger and Hesse, administered one-tenth of a grain to a cat, eight weeks old, which killed the animal in twelve hours, after varied and excessive suffering. The stomach and intestines were found violently inflamed.

Until this change is made, the best preparation of the bulb is undoubtedly Sir Everard Home's wine, made from the fresh bulb, dug at the end of July, sliced thin, and the slices, as fast as cut, instantly thrown into the wine.

It is a common practice with physicians, in this country, to direct wine of the *seeds* of colchicum in their prescriptions, as if it were officinal in our pharmacopœias. But no such preparation is in them; and the misconception, so very general on this subject, is productive of much uncertainty and inconvenience to the apothecary. The vinum colchici of the pharmacopœias, as already remarked, is made from the dried bulbs; not from the seeds: from the latter, a tincture is made; and, as it is one of great power, there ought to be no confusion connected with it.

I have known the seeds beaten into a mass with mucilage (a work of no small labour), and formed into pills, to act as a brisk cathartic, and to give complete relief in facial neuralgia.

The acetum colchici of the pharmacopœias, neutralised with magnesia, and holding dissolved some sulphate of magnesia, is recommended by Sir C. Scudamore, in his Treatise on Gout, as the best formula. He says the combination is inoffensive to the stomach, and certain in its effects on the bowels. The dose recommended by him is half a drachm to one drachm and a half; and this, he says, never produces constitutional nervousness. I have taken two ounces, however, of the acetum colchici, within six hours, at two equal doses, without any other result than an intermitting pulse. A gentleman, labouring under gout, took, on my assurance of the feebleness of this preparation, no less than eighteen drachms of it, in divided doses, every day, for six days, without any obvious effects.

Should Sir Everard Home's wine of colchicum ever come into use, and his authority ought to be sufficient warrant for its introduction, the apothecary should keep it in two states, one with the deposit, and the other without it.

Dublin Medical Press, Sept 16, 1846, *p.* 182.

77.—*Ammonia as a Vesicant.*—[The following is a recipe with directions for the preparation of M. Gondret's ammoniacal vesicant ointment, called "Pommade de Gondret."]

In summer, take lard, 6 drachms; oil of sweet almonds, 2 drachms; tallow, 4 drachms. Melt by a gentle heat, and pour into a wide-mouthed phial with a glass stopper. Then add 12 drachms of liquid ammonia at 27° or 28°; put in the stopper, and shake it

up. It should be kept in a cool place; but as the temperature gets lower, put 2 drachms less tallow, and 2 more of lard. This pommade produces vesication in three, four, or five minutes.

Dr. Gondret remarks, that he has employed this vesicant with much advantage in the treatment of cataract, applying it on the mastoid process, or forehead; but little favourable change has been perceptible in less than a month's persistence in the use of the remedy. As auxiliaries he has also employed cupping on the nape, dry cupping to the back or loins, ammoniacal ether or spirit to the eyelids, &c. M. Gondret states, that his pommade is still employed by M. Lisfranc for cataract and gutta serena in the Hôpital la Pitié, Paris, and that he himself practised on these diseases with it at the Ophthalmic Institution, Moorfields, for several months, in 1838, during which period, he adds, Messrs. Turner, Grace, and several other London chemists, "prepared it for him in perfection."

Lancet, Sept. 12, 1846, *p.* 306.

78.—*To Cover Pills or Extract of Copaiba with Gelatine.*

This process, invented by M. Garot, is exceedingly easy and practicable, and it is surprising that it is not employed more generally in this country, as it much more effectually disguises the taste and odour, and interferes less with the solution of the medicine, than the method of gilding or silvering usually practised. It is applicable to every substance capable of a pilular consistence; such as balsam, camphor, musk, assafœtida, mercurial and ferruginous preparations, &c. Two hundred pills can be coated with gelatine in an hour, and will be ready for use after the lapse of two hours. The pilular mass so coated remains soft for a much longer time than according to any other plan. The process is as follows:—Fix the pills on long, fine pins; plunge them into thick purified glue placed in a hot-water bath; then remove them by a rotatary motion, and stick the pins in paste spread out on a slab, so that the pills may remain elevated in the air; as soon as fifty are thus treated, rotate them individually in the heat of a taper, to harden the external pellicle; pull out the point of the pin, and the process is complete.

Medical Gazette, July 17, 1846, *p.* 95.

79.—*Instructions for Making Unfermented Bread.*

There can be no doubt that the proper making of bread is a matter of great importance to the health of the community. The author of the little pamphlet before us has paid particular attention to this subject, and he has therein not only given the best rules for making this important article of food, but has also added to them some very judicious reflections. We give the following extracts:—

TO MAKE WHITE BREAD.

" Take of	Flour, dressed or household .	3 lbs. avoirdupois.
	Bi-carbonate of soda, in powder	½ oz. Troy.
	Hydro-chloric (muriatic) acid, (specific gravity 1·17) .	5 fluid drachms
	Water	about 26 fluid ounces.
	Salt	⅔ oz. Troy.

TO MAKE BROWN BREAD.

Take of	Wheat meal	3 lbs. avoirdupois.
	Bi-carbonate of soda, in powder	4⅓ drachms Troy
	Hydro-chloric (muriatic) acid, (specific gravity 1·17) .	5 fluid drachms and 25 minims, or drops
	Water	about 30 fluid ounces.
	Salt	⅔ oz. Troy.

First, mix the soda and flour as thoroughly as possible, which is best done by shaking the soda from a small sieve over the flour with one hand, and stirring the flour all the while with the other. In general this will answer sufficiently; but the end will be attained more certainly if the mixture be passed afterwards once or twice through the sieve. Next, dissolve the salt in the water, and add the acid to it—taking care to perfect the mixture by stirring them well together. Then, mix the whole intimately as speedily as possible, using a wooden spoon or spatula for the purpose. The dough thus formed will make two loaves somewhat larger than half-quarterns. They should be put into a quick oven without loss of time. This is most conveniently done in long tins. The oven should be made hotter than for common bread. A portable one, where there is no other, and a common fire will answer the purpose About an hour and a half will be required for the baking.

Common bread, like every thing that has been fermented, ferments easily again, to the great discomfort of many stomachs; and not only so, but as 'a little leaven leavens the whole lump,' it communicates a similar action to all the food in contact with it. Unfermented bread being free from this defect, is beneficial to those who suffer from head-ache, acidity, flatulence, eructations, a sense of sinking at the pit of the stomach, or pain after meals, and to all who are subject to gout or gravel. It is also useful in many affections of the skin. These remarks apply to both varieties of the bread, but especially to the brown, which is further invaluable to all who are liable to constipation from torpidity of the colon, or large intestines, the common infirmity of the sedentary, and of those who have been accustomed to oatmeal diet in their youth. There are other cases in which the brown is calculated to do much good.

The general belief is, that bread made with the finest flour is the best, and that whiteness is the proof of its quality; but both these opinions are popular errors. The whiteness may be, and generally is, communicated by alum, to the injury of the consumer;

and it is known by men of science, that the bread of unrefined flour will sustain life, while that made with the refined will not. Keep a man on brown bread and water, and he will live and enjoy good health; give him white bread and water only, and he will gradually sicken and die. The meal of which the first is made contains all the ingredients essential to the composition or nourishment of the various structures composing our bodies. Some of these ingredients are removed by the miller in his efforts to please the public, so that fine flour, instead of being better than the meal, is the least nourishing; and, to make the case worse, it is also the most difficult of digestion. The loss, is, therefore, in all respects, a waste; and it seems desirable that the admirers of white bread (but especially the poor) should be made acquainted with these truths, and brought to inquire whether they do not purchase at too dear a rate the privilege of indulging in the use of it. The unwise preference given so universally to white bread, led to the pernicious practice of mixing alum with the flour, and this again to all sorts of adulterations and impositions; for it enabled bakers, who were so disposed, by adding more and more alum, to make bread made from the flour of an inferior grain, look like the best or the most costly, and to dispose of it accordingly; at once defrauding the purchaser, and tampering with his health. It is one of the advantages of the effervescing process, that it would put an end to all such practices, as its materials and alum are incompatible.

Among the matters removed by the miller are the larger portion of the saline substances, which are indispensible to the growth of the bones and teeth, and are required, although in a less degree, for their daily repair. Brown bread should therefore be given to nurses, and to the young or the growing, and should be preferred by all, of whatever age, whose bones show a tendency to *bend*, or who have weak teeth.

It is believed that brown bread will generally be found the best by all persons who have sluggish bowels, and stomachs equal to the digestion of the bran. But with some it will disagree, for the bran is too exciting to irritable bowels, and is dissolved with difficulty in some stomachs. When this happens, the bran should be removed, either wholly or in part; and by such means the bread may be adapted, with the greatest ease, to all habits and all constitutions. With this proviso, (except, perhaps, in some cases of calculus) the least refined, or rather the more natural, will be preferred by all who have an enlightened regard to health and economy."

Monthly Journal of Medical Science, June, 1846, *p.* 459.

80.—*A Cheap Substitute for a Vapour Bath.*

Dr. Serre (d'Alais) recommends the following means of inducing abundant transpiration:—Take a piece of quick-lime, about half the size of your fist, and wrap it around a wet cloth, sufficiently wrung to prevent water running from it. A dry cloth is to be

several times wrapped around this. Place one of these packets on each side of the patient when in bed. An abundant humid heat is soon developed by the combination of the lime with the water, which quickly induces copious transpiration; the effect of the apparatus lasting for two hours at least. When sweating is fully established, we may withdraw the lime, which is now reduced to a powder, and is easily removed. In this way, neither copious drinks nor loading the bed with coverings is required.—*Medico-Chirurgical Review.*

Lancet, May 16, 1846, *p.* 555.

81.—*On the Best Means of Avoiding the Taste of Nauseous Medicines.*—By Dr. Ure.

The best plan of giving solids is by means of *wafer paper*, which, according to Dr. Ure, is made in the following manner:—"A certain quantity of fine flour is to be diffused through pure water, and so mixed as to leave no clotty particles. The pap is not allowed to ferment, but must be employed immediately it is mixed. For this purpose a tool is employed, consisting of two plates of iron, which come together like pincers, or a pair of tongs, leaving a small definite space betwixt them. These plates are first slightly heated, greased with butter, filled with the pap, closed, and then exposed to the heat of a charcoal fire. The iron plates being allowed to cool, on opening them the thin cake appears dry, solid, brittle, and about as thick as a playing card." We meet with it in small sheets, of a light colour, breaking easily when dry, but tenacious and moulding itself easily to the substance it covers when wet, increasing but slightly its bulk. When any powder is to be taken, it must be mixed with syrup or other tenacious substance to the consistence of a bolus, and the patient be desired to break off as much of the paper as may be necessary to envelope the substance; dip it (the paper) in water, lay it on a plate or clean surface, and then place the electuary in its centre; fold the corners carefully over it, and swallow it by drinking a little water. Some persons have suggested putting the powder on the paper, and folding it without wetting the powder. This I should not, however, recommend, or an exposure of the mixture might result, much to the disgust of the patient, and to the injury of the method. Those who are unable to swallow pills can manage to bolt these boluses covered with wafer-paper; they slip down the throat easily, as would an oyster, and do not produce that convulsive action of the muscles of the larynx and pharynx which frequently attends the effort of swallowing pills. I would strongly recommend the use of the wafer-paper as an envelope for scammony, when prescribed for children—a medicine so frequently producing nausea. It is equally applicable for taking the compound powder of jalap, or any other substance prescribed, in drachm or half-drachm doses.

Lancet, May 30, 1846, *p.* 603.

SURGERY.

FRACTURES AND DISEASES OF BONE.

82.—TREATMENT OF FRACTURE.

By Robert Liston, Esq.. F.R.S., &c., &c.

The object of the surgeon in the treatment of all fractures must be to obviate pain and suffering, to put the parts in the most favourable condition for being repaired, and to preserve the limb of its normal shape and length. All these indications are fulfilled by the same means, viz., instant coaptation, and retention of the broken ends in the most perfect possible apposition. The earlier the means are adopted, the greater and more immediate will be the patient's relief from suffering, and the less the surgeon's anxiety and labour; excess of bloody and serous effusion will thus also be prevented, and the excited action kept within bounds. Prevention, it is admitted, is always better than cure; and if the above recommendation be attended to, all necessity for local abstraction of blood, and for the use of lotions to cool the part, will be obviated. If, on the contrary, the limb is laid loosely on a pillow, in an easy position, as it is by some thought and said to be, muscles relaxed, &c., and no efficient means are allowed to prevent the spasmodic action of the muscles, the startings of the limb, the jerkings of the broken ends, and the displacement of the fragments, then, assuredly, in spite of all local and general measures, there will arise frightful swelling, pain, tension, and heat; the intermuscular tissue will be gorged with blood, and the circulation of the limb roused to a dangerous and alarming degree. No application of soap plaster, in strips, gently around the limb, "by causing secretion underneath it," can reasonably be supposed likely to diminish either the irritability of the muscles or the urgency of the inflammation; nor will it. The splints, when resorted to, must be put upon a swollen and distorted member.

British and Foreign Medical Review, Oct. 1846. *p.* 369.

83.—*On Fracture of the Clavicle.*

Two difficulties are met with in the treatment of this accident; the maintenance of the fragments of the bone immoveable, and the procuring a regular callus. Desault's bandage does not entirely fulfil these conditions, but M. Blandin obtains them by rendering this apparatus immoveable by means of dextrine. Six cases have just been treated by him at the Hôtel Dieu, and in one only, this patient being delirious from a wound of his head, was the success incomplete. In the others, when the bandage was removed, it was difficult to point out the side upon which the fracture had occurred, no angle or projection whatever being visible. It might be supposed that an immoveable bandage of this kind would prove very irksome to the patient. It does not: for, owing to the fragments being maintained *in situ*, he suffers less; and there is no necessity to renew or tighten the apparatus every few days, as would otherwise be the case. Care is of course taken to guard the armpits, and other parts which the stiff bandage would irritate, by means of compresses. In private practice, M. Blandin causes the patient to wear a somewhat tight flannel-waistcoat, over which he applies the bandages; and with the skin thus protected, the most delicate females experience no inconvenience from it.

Medico-Chirurgical Review, Oct., 1846, *p.* 458.

84.—*Treatment of Fractures.*—By F. A. Bulley, Esq.—[During the reading of the Retrospective Address to the Reading Pathological Society, July 8th, 1846,]

Mr. Bulley exhibited an apparatus which he had lately constructed for the more efficient treatment of fractures of the thigh bone. The mechanical extensile power in this apparatus, by means of a foot piece moving on an endless screw, was so arranged, that the necessary traction should be equally divided between the foot and the lower end of the fractured bone, because he had found that in many of the cases he had witnessed, where the extension had been practised wholly by the foot, the knee-joint, from its having been kept for a long time upon the stretch, had remained inflexible and useless long after the bone had been united, which constituted, he thought, a serious objection to this method of treatment, and also, because it was thought by some parties, that traction employed only through the medium of the broken bone itself, would be a better mode of treating these accidents. But he could prove, that to produce the necessary extension in this way, a greater amount of extending power, owing to the shorter leverage employed, would be necessary; and to obtain this, the pressure upon the thigh above the condyles would interrupt the venous circulation, and cause œdema of the leg, which, when traction was used in this way, and especially by the apparatus of Dr. Jarvis, was placed on a double inclined plane, in a depending position. He therefore proposed to remedy these inconveniences by a division of the trac-

tile forces, so that half should be expended upon the thigh-bone itself, and half upon the foot. The peculiar mechanism of the apparatus would insure these effects. He particularly recommended it, as it was capable of insuring an easily regulated extension, while at the same time the broken limb was constantly under the observation of the surgeon, which was not the case with Liston's, or, indeed, any of the splints in ordinary use. He would apply this mechanism to all cases of fracture of the thigh, in whatever portion of the bone they might occur; and in order that the traction of the lower broken end of the bone might be made in as direct a line with the upper end as possible, he would suggest that the foot with the whole limb should be kept more or less raised during the process; for instance, if the bone was broken near the trochanter it would be necessary to raise it very greatly, while, on the contrary, if broken near the condyles of the bone, a very slight elevation would be sufficient, or perhaps none at all would be required. The lateral splint, in connection with the upper part of the apparatus, was acted upon by a force which pressed it inwards towards the thigh, thus preventing the bowed or excurvated appearance of the limb, which occasionally followed these accidents.

Mr. May said, that in the majority of cases which had occurred to him, the straight splint of Liston seemed the best to be adapted to the treatment. The rule which guided him was to place the limb in that position at first, which seemed best to suit the apposition of the broken bones. In all cases of fractured thigh he considered it best not to be in a hurry to put it up. He generally placed his patient in the easiest position on the side, and, having placed the ends of the fractured bone in apposition, left it for a week or ten days, until the contractility of the muscles had subsided and the inflammation disappeared. He then, having carefully enveloped the limb in several folds of bandage, so as to prevent the injurious effects of pressure, applied the straight splint, and lashed the limb to it, and it rarely, if ever, required to be touched afterwards. He then placed the patient on the revolving bed, especially if he was an old person, to prevent the sloughing which might probably ensue.

Provincial Medical and Surgical Journal, Sept. 23, 1846, *p* 449.

85.—*Case of Spina Bifida Cured by Operation.*

M. Latil de Timecour was called in, January, 1845, to an infant aged two months, which presented a tumour seated in the sacral region, and which, from the size of an apple at its birth, had gradually acquired the volume of a fœtal head. Moreover, the left leg was paralysed, and there existed on the same side a club-foot—varus equinus. The base of the tumor was compressed between two rods of wood directed in the line of the vetebral column, and at first brought into single apposition. It was then emptied by means of a trocar, and while the liquid was flowing, the pieces of

wood were brought more and more together, in such a manner as to bring the two serous membranes in contact.

The tumor shrivelled, and soon became gangrenous, without any serious consequences, and upon the fifth day the gangrenous portions were removed upon a plane with the rods of wood. Cicatrization was interrupted by a kind of fistulous opening which allowed the flow of the rachidian fluid, and moreover, a sort of hernia of the medulla spinalis, which it was necessary to tie. The rods were removed on the tenth day, and on the fifteenth the second ligature fell off of its own accord. Dating from this time, the cure proceeded rapidly, and seven months after the operation the infant had acquired its proper development. The lumbo-sacral cicatrix was scarcely apparent; it appeared to repose upon a cartilaginous tissue, which might, perhaps, be the commencement of vertebral ossification.—*Gaz. Méd. Chir.* No. 1, 1846, p. 6.; and *Gazette Médicale.*

Medical Gazette, Aug, 21, 1846, *p.* 343.

[Two cases were brought before the Manchester Pathological Society, by Mr. Dumville. One was of a child five months old. The arrest of development was from the third lumbar to the second sacral-vertebræ which gaped widely. The sac was capable of holding an ounce of fluid. The tumor was punctured at the urgent wish of the friends, and the child died.]

In the second case the congenital deficiency was situate in the same locality. He evacuated the sac by puncture, and the recovery was complete. The child, which was nine months old at the time of the operation, has now attained eighteen months; and its health is unexceptionable. The operation was quickly followed, in this instance, with profuse perspiration; the face immediately became deeply congested; and there was much derangement of the stomach, attended with vomiting. The child was very fretful, had excessive twitchings, but no distinct convulsion. When the sac was quite empty all the symptoms were aggravated; but on becoming again distended with secretion, which occasionally took place in consequence of mechanical obstruction of the aperture, the symptoms underwent amelioration. The discharge of fluid, with more or less of the symptoms described, having lasted fourteen days, the orifice then healed over, and no further secretion of serum following, the child convalesced without any relapse. This case he adduced rather as an exception to, than as an example of a general rule.

Judging from the aggravation of the symptoms whenever any excess of the fluid happened to drain off, it would appear that too much precaution cannot be taken in order to secure the evacuation of the sac as gradually and in as constant a manner as possible, in these cases, and that the plan of operation most suitable for the attainment of this desirable end should be adopted, and, above all, timely put in practice.

Medical Gazette, Sept. 25, 1846, *p.* 549.

DISLOCATIONS AND DISEASES OF JOINTS.

86.—ON DISLOCATIONS OF THE HIP.

By J. C. Davie, Esq, Haddenham.

[Mr. Davie feels it his duty to publish these cases, and to suggest a new instrument for the reduction of dislocations of the hip, from having seen the best directed efforts fail in reducing them, and he mentions two cases in the Gloucester Infirmary which remained unreduced, from a deficiency in the mechanical means employed, He says, "I have of late had opportunity of examining an old accident of this kind, which strengthened my opinion. It is no uncommon circumstance, he continues, though a wrong direction be given in the extension, for the adducent muscles to draw the head of the bone into its pristine situation,]

The objections to the remedial appliances, which are most frequently used in the displacement of the hip-joint, especially those necessitating extension downwards, appear to be the following,—1st, the pelvis is not made a complete fixture; 2nd, the single pad just above the knee, buckled or tied by tapes, cannot withstand the force of pullies; and, 3rd, in making the extension the hand is liable to fatigue, and it is impossible to effect it in the same gradual and precise manner as by the means I have resorted to, and which, I doubt not, will be acknowledged by all competent authorities, to be the most eligible for the well-being of the patient.

In the treatment of this accident, where there is so much muscular power to contend against, for the extension to be rendered efficient, the pelvis should be immovably fixed to some unyielding substance, and it is equally important that the apparatus above the knee, to which one of the pullies is attached, should retain its hold. I will, therefore, endeavour to exemplify the surgical mechanism I have employed, and which, I think, will supersede those in ordinary use.

In the first place the operator should have at his command a plank or planks of oak, beech, or elm, eight feet in length, three feet in width, and three inches in thickness, which should rest upon chairs, or upon tressels. If composed of two boards, they should be joined together by joists. Whatever position the patient is placed in, holes should be drilled in opposite directions, so that the ilia and unaffected thigh may be environed by two strong leather straps; cloths of any soft texture should be applied next the skin to prevent fretting, thus rendering the pelvis a complete fixture, enabling the effective means, the extension and uplifting the head of the femur to be used with the greatest advantage. 2nd. In cases of dislocation upwards on the dorsum ilii, upwards and backwards

into the ischiatic notch, and forwards on the body of the os pubis; to obviate the inconvenience of frequent readjustment, and much grievous annoyance, instead of the single pad above the knee, I have substituted two iron plates, fashioned to the configuration of the lower part of the thigh, just above the condyles, movable by a joint, and on the other side fastened by two thumb-screws. That portion of the under plate which approaches the leg, should be turned back, in order to avoid the disagreeable consequences of pressure, the soft parts being previously protected by a wetted cloth, the leg bent, and held by an assistant, which serves to keep the instrument in juxta-position, as well as to produce flaccidity of the muscles. This metallic implement might be padded with wool, covered by wash-leather, at the discretion of the surgeon; for my own part I prefer it in the rough state. 3rd. At the distal extremity of the board, an upright post is fixed, twenty inches in height, and from three to four inches in thickness, through which there is a central hole for the pulley-rope to pass, and another laterally for a stick or windlass, which may be worked with cogs, or by a roller and ratchet wheel. One of the pullies is attached to a hook in the front plate, and the other to a staple in the upright post. The cord of the pullies must be tensely drawn, and the extension then commenced, which can be made in the most gradual manner.

As a general rule, I consider the line of direction in the reduction of the several dislocations of the hip-joint, laid down by the late Sir Astley Cooper, the best that can possibly be devised, no doubt occasionally requiring modification, as the head of the bone is not at all times so favourably located, being locked to some bony process, which tact and experience will readily dictate. The metallic implement for the attachment of one of the pullies, will be found to be of eminent advantage in the readjustment of accidents of this kind, where the extension is required to be made downwards and outwards. I have nothing to add to the ordinary remedial agents employed in the displacement of the head of the femur downwards into the thyroid foramen, except that, in a recent case, where the articulating extremity of the bone cannot be moved from its new situation by uplifting it, and, at the same time, making a lever of it, by carrying the affected member over its fellow, the same means can be tried more efficiently by having the pelvis fastened to the board, and, if the head of the bone cannot be raised by the efforts of the surgeon and assistants, extension upwards with the pullies attached to a strap around the top of the thigh, approaching to a transverse line, would be effectually accomplished by having the upright post fixed at a convenient angle. The legs of the board and upright post or pillar might be made with screws, so that they can be removed as circumstances require.

Should this apparatus be approved by the surgeons of general hospitals, each institution ought to be provided with three or four pairs of the metallic plates of different sizes, that the instrument may be readily adjusted. To general practitioners, who are situated

at too great a distance from an hospital, I would recommend each gentleman to have in his possession leather straps, a compound pulley, a pair of iron plates for middle stature, (two or three different sizes would be better,) and an upright post or pillar, which I will describe. Having these requisites at hand, the table or planks will be readily procured. The pillar is twenty inches in height from the rester, and three inches and a half in thickness with a screw from five to seven inches long. At the base of the pillar is a flat piece of wood, which I have termed the rester, and a large wooden nut, movable by two handles, the screw passing through the rester, a table or board, and the nut, by means of which the pillar is rendered a complete fixture. At the upper part is a mortise for the admission of a roller, movable by a spindle and crank, the former acting upon an iron plate on each side of the post, passing through the centre of a ratchet wheel, and retained there by a small iron nut. In order to render traction continuous, there is a hole in the roller for one end of the pulley rope to pass through, which is fastened by a knot at its extreme point. A little below the mortise a metallic eye is fixed for the attachment of one of the pullies. Gyration is regulated by the ratchet wheel, click, and spring. By depressing the click, retrocession and relaxation can be momentarily produced. Extension may be thus enforced to any degree, being completely under the control of the operator, and can be performed as rapidly, or slowly, as the circumstances of the case demand.

Before the special treatment is commenced in a strong athletic subject, or in displacement of long standing, the preparatory and accessory measures, I am convinced, are of the greatest moment,—viz., the warm bath, depletion, and nauseating doses of tartarized antimony, as tending to exhaust the muscles, checking undue reaction, and other perilous consequences, but the readaptation can only be looked for from the skilful ingenuity of the surgeon.

Provincial Medical and Surgical Journal, Sept. 30, 1846, *p.* 461.

87.—*Compound Dislocation of the Ankle.*—By E. Copeman, Esq., Colteshall.—[This case came under the care of Mr. Copeman, June 20th, 1846, and the following is its history:]

The patient on driving a load of hay through a gateway, his foot became entangled against the post, and the waggon wheel coming in contact with the outside of the foot, forced it inwards, so as to dislocate the joint, the gate-post being the point of resistance. I found the foot very much turned inwards, the inner malleolus fractured off, and, with the astragalus resting against the inner side of the tibia, some way above its extremity. The external malleolus was crushed by the wheel, and the lower end of the tibia and fibula, minus the two malleoli, projected through a wound in the integuments, to the extent of more than an inch at the outer side. There was a free oozing of blood, but no large vessel opened. The cartilage covering

the lower end of the tibia was visible, being exposed outside the wound, and the wound in the integuments was more than two inches long. With the assistance of my partner, I made several attempts to reduce the dislocation, but failed. In order to give the man every chance, I requested a consultation with Mr. Crosse before proceeding to any other means of relief,

Several hours elapsed before Mr. Crosse could reach the house; on his arrival, he advised another trial at reduction, and then, if not successful, the removal of the projecting portions of the bones. However, in our next attempt we fortunately succeeded in restoring the bones to their natural position; the wound was then closed with two sutures, and covered simply with a piece of lint. A splint was applied along the inside of the leg and foot, secured by a few separate pieces of bandage, and the limb placed on a box in the same position as when reduced—viz., the thigh almost at right angles with the body, and the leg at right angles with the thigh, resting on the calf and heel. Cold water to the leg, and an opiate.

24th. Up to this time scarcely any local or general disturbance; bowels acting; no fever; no medicine; limb in very good position, and not painful; kept cool with water, and occasionally fanned; wound favourably situated, being, after reduction, somewhat above the level of the joint.

27th. Removed the sutures: health quite good; limb easy and not inflamed.

July 2nd. No illness, pain, or swelling; no suppuration. All going on marvellously well.

24th. Just in the same quiet state; wound healed.

In six weeks from the accident the splint was removed, and he got down stairs; and to-day, August 17th, I found him walking in his garden, able to bear considerable weight upon the limb, and possessing a good deal of power to move the joint; so much, that I believe in a short time he will suffer no inconvenience whatever from the accident. There is neither swelling nor deformity of the ankle, and the man has really not suffered an hour's illness since his dislocation was reduced.

Sir Astley Cooper has drawn particular attention to the probability of recovery from compound dislocations of the ankle, without amputation, but he remarks that, "under the most favourable circumstance, three months elapse before the patient can walk with crutches; in many instances, a greater length of time is required." The same surgeon states that, "the dislocation of the tibia, at the outer ankle, produces much more injury and danger than that at the inner, and amputation will be more frequently required for it, because both the bones and soft parts suffer more than in the dislocation inwards."

The case I have quoted is an example of a very rapid, uninterrupted, and perfect cure of the kind of dislocation which is thus said to produce the greater amount of injury and danger, and is well calculated to corroborate the now prevailing opinion, that

amputation is not necessary in a majority of compound dislocations of the ankle-joint.

Provincial Medical and Surgical Journal, Sept. 16, 1846, *p.* 443.

88.—*On the Treatment of Diseases of Joints by Iodine Injections.* —By M. Bonnet, Lyons.—[In Retrospect, Vol. VII., Art. 75, we referred to some of the suggestions of M. Bonnet on the treatment of joints, especially with respect to the injection of iodine.

This mode of treatment has recently been very popular amongst the French surgeons. M. Velpeau and M. Bonnet each seem to claim the priority in this mode of practice.

It was in the treatmeut of hydrocele that M. Velpeau first used iodine; he considered that in addition to creating adhesive inflammation in the sac, it might be beneficial in removing serous collections, depending on congestion or hypertrophy in some adjacent organ, and not only in this respect be more useful than wine, but also not be so liable, as that fluid, to produce gangrene when infiltrated into the loose cellular tissue. Indeed, when he injected it into the cellular tissue of animals it seldom produced suppuration. He afterwards extended its application from simple hydrocele to congenital hydrocele, and hydrocele of the hernial sac; he also used it with success in two cases of serous cysts in the iliac fossa, in an encysted sero-sanguineous collection behind the uterus, and in serous cysts situated in various parts of the body, and in several cases of encysted goitre. He further employed it in two vast purulent collections. He next tried it in tumors of the synovial sheaths of tendons. He afterwards determined to treat hydrarthrosis with iodine injections. In speaking of the mode of doing this, the British and Foreign Medical Reviewer observes:]

To inject the knee-joint the leg must be extended. M. Bonnet pinches up a fold of the skin and passes in a hydrocele trocar at the base of this fold, in order that when the operation is complete the external and internal puncture shall not correspond, and thereby admit air. M. Bonnet also always holds the trocar as vertically as is consistent with the escape of the fluid, as air can scarcely enter while the trocar is full of liquid. M. Velpeau neglects these precautions, as he is satisfied by experience that the admission of a few bubbles of air is harmless. Both agree that it is not of much consequence at what point the joint is perforated, but prefer the upper and outer part of the joint, or rather whatever point fluctuation may be most evident at. M. Bonnet seems to use an ordinary trocar; M. Velpeau attaches great importance to employing an instrument not larger at the utmost than a hydrocele trocar. M. Bonnet merely allows six or eight drachms of synovia to escape, a quantity, in fact, equal to the bulk of the injection he throws in; M. Velpeau, on the contrary, empties the joint as completely as he can. M. Bonnet in almost every case injected pure tincture of iodine, calculating on its being diluted by the fluid left in the joint; M. Velpeau injects tincture of iodine diluted, it is not precisely said

to what extent, but it would seem with from two to four parts of water. M. Bonnet allows either the entire or the greater part of the fluid to remain in the joint after the injection has been performed; M. Velpeau, on the contrary, seems to allow the whole of the injection to escape—we say *seems*, for there is great want of precision in many of M. Velpeau's statements. M. Bonnet would in future prefer M. Velpeau's method, as it excites greatly less inflammation than occurred in his own cases.

[Considerable pain is felt during the operation, and inflammation in the joint, and fever ensue. In reporting one of his cases. M. Bonnet observes:]

The inflammation ran on with alarming rapidity and intensity The patient shrieked with pain during the entire day. Forty leeches were applied in the evening without giving any relief. The swelling, which was much greater than before the operation, was rapidly increasing. The tension of the skin was extreme. At seven in the evening, alarmed at the rapid increase of the swelling, I could devise no other expedient to restrain it than again plunging the trocar into the joint. And in another case, the inflammatory reaction was intense; during the night there was fever, restlessness, and even commencing delirium. The joint swelled, and the skin was red, tense, and burning; nausea and vomiting set in, and those symptoms lasted three days.

[Although M. Velpeau considers that the iodine injection never causes suppuration when injected into a close cavity, nor gangrene when it escapes into the cellular tissue, it appears that the experience of others does not agree with this, since both these occurrences have taken place, and death been the result. The reviewer adds:]

It appears, then, that the iodine injection may produce precisely the same mischiefs that may follow the employment of wine and other stimulant injections proposed to be superseded by it; and we fully agree with MM. Blandin, Roux, and others, that though no mischief is yet known to have occurred from injecting it into the joints, disastrous results must inevitably follow from perseverance in the practice. There are few proceedings in medicine or surgery, however hazardous, which cannot be supported by an array of successful cases; and we would just as soon infer the safety of injecting the knee-joint in hydrarthrosis from the cases we have enumerated, as we would infer the safety of passing a seton through the knee in the same disease from the result of ten cases reported to have been so treated with success by Dr. Müller. (Gaz. des Hop. June 1842.)

We have entered rather fully into the question of iodine injections, as they are now very extensively used on the continent, and the confidence with which M. Velpeau and others proclaim their constant safety and almost constant success, is calculated to induce others to imitate their boldness. We may here mention, as illus-

trations, how indiscriminately these injections are employed by some, that Dr. Suytgaerens, of Puyers, after performing paracentesis of the thorax in a case of empyema, repeatedly injected the pleura with an iodine injection, the result, we must add, was favourable, and the patient recovered. More recently, M. Dieulafoy, of Toulouse, in a case of ascites, threw a quantity of iodine injection into the peritoneum, and, after diffusing it over the entire cavity, drew off about half the quantity of fluid injected. Febrile reaction, with slight pain in the abdomen, followed; cataplasms and mercurial frictions were directed. A month after, about half the cavity of the peritoneum seemed obliterated, but the fluid, having again collected superiorly, the injection was repeated with similar consequences. In about six weeks a small quantity of serum had accumulated, forming a circumscribed globular tumor; a third injection produced the same febrile and inflammatory symptoms. The ascites now finally disappeared, and was replaced by general anasarca, which yielded to purgatives. The patient ultimately recovered after a long convalescence, and experienced no inconvenience, save a dragging sensation in the abdomen on assuming the erect position. Finally, to conclude this subject, it may be noticed that, during the academic discussion so often referred to, it was suggested by MM. Laugier and Caventou, that the stimulant effects of diluted tincture of iodine was solely due to the alcohol it contained, and that the iodine was, so to say, mere surplusage. It may be, and we incline to the opinion, that there is nothing special in the local action of iodine, but unquestionably it powerfully contributes to the stimulant properties of those injections, as might be inferred from its action on the skin, and as is directly proved by the fact, that M. Bonnet has sometimes employed an injection composed of iodine, iodide of potassium, and water, and found that it excited active inflammation.

British and Foreign Medical Review, July, 1846, *p.* 70.

89.—*On the Value of Position and Mechanical Support in the Treatment of Diseased Joints, with special reference to the knee-joint.* By Anthony Colling Brownless, Esq., M.R.C.S.E., London.—[The subsequent usefulness of diseased joints depends, 1st, upon the position they are allowed to assume during the active stage; and 2ndly, upon proper support in the convalescent stage, when the activity of the disease being subdued, the patient is beginning to use the limb.

In regard to restraint of position during the treatment, it is true that many circumstances may render restraint undesirable, but it is equally true that by attention to position very serviceable limbs may be procured.

Mr. B. adduces examples to shew how unsightly and comparatively useless the limbs may become by inattention to *position and mechanical support*, viz., anchylosis of the hip-joint with the thigh flexed, or that of the knee with the leg flexed upon the thigh, and he

considers that the straight position is the most sightly and the most useful.

He considers restraint to motion prudently and judiciously applied an agent of the highest importance, and especially when used for the joints of the lower extremity, and above all the knee joint, because in cases of inflammation of the synovial membrane, or ulceration of the cartilage, there is much spasmodic action of the muscles which occurs especially during sleep. Even in diseases of the wrist or finger joint, the patient is relieved of the pain and the cure is facilitated by it.]

During the active progress of disease, any splint or apparatus which will at once maintain the joint in a desirable position, prevent any considerable motion, and be comfortable to the patient, will fulfil all our intentions. Perhaps the strong pasteboard or undressed leather splint, adapted to the part whilst wet, and afterwards softly padded with lint, or, what is better, goldsmith's or jeweller's wool, will answer as well as anything else, it being light, and, at the same time, giving good support; but whatever the apparatus may be, no pains should be spared in fitting it in such a manner to the part as to be perfectly easy to the patient, at the same time that it gives steadiness to the limb, by extending sufficiently above and below the joint. I feel confident from my experience that great benefit may be derived to diseased knee-joints under active treatment, by placing them in an apparatus of this kind, fitted to the back part of the limb. The limb should lay in a sort of case, which should be long enough to receive the calf of the leg, and also extend well up the thigh. The apparatus I shall presently mention for the after-treatment should be much shorter, for, during the progress of the disease we have no wish to facilitate the movements of the muscles, whilst in the after-treatment we wish to give them every opportunity of recovering as much tone as it is possible for them to regain, at the same time that we do not sacrifice, for the hope, often futile, of their recovery, the permanent utility of the limb. If the apparatus of which I have spoken be not too high at the sides of the joint, and care be taken to pare away the leather with a knife at any part where it may press too much at the side of the articulation, no inconvenience can be experienced from pressure on the inflamed joint, even in the most active state of the disease

Some may say, is not Mr. Scott's plan adopted in the cure of diseased knee-joints? and does not that give support and prevent motion?

Mr. Scott's plan is very good, so far as it will reach, aud no doubt owes much of its success to the check it gives to movement in joints, but in practice it is applicable only to a very limited number of cases, even could it be borne in all by the patients; and it will certainly not be half so effectual in preventing the limb contracting a bad position, as properly-adapted splints, of undressed leather or pasteboard, which have also another great advantage—

viz., that of being convenient for the application of local remedies to the affected joint.

By the use, then, of this plan to diseased joints, we obtain, more or less, the following important ends:—First, the alleviation of the sufferings of the patient; secondly, the lessening the liability to repeated attacks of inflammation, and, consequently, thirdly, the acceleration of the cure; fourthly, the prevention of deformity if the disease terminates in anchylosis, partial or complete; and, fifthly, the ultimate utility of the limb.

After treatment.—After severe disease has been arrested in a joint receiving the weight of the body, the knee more especially, deformity often occurs, and the usefulness of the joint is more or less lost by want of support at the commencement of the use of the limb. If a patient is confined for a length of time without using a limb, the muscles become enfeebled, or atrophied, by long disuse, and are unable to act with sufficient power to preserve the proper relations between the bones of the joint, weakened as the latter often is by the changes which have taken place in the ligaments from disease.

In the case of the knee, the evil is not confined to this joint only, but to remedy the impediment to walking, and to counteract the obliquity caused by its displacement, and to enable the limb to support the trunk, the ligaments of the ankle-joint and tarsal articulations yield, and we have distortion of the foot resulting. The danger of these evils is much lessened if proper support be given to the knee before walking be at all permitted,

I know of no better support for a knee-joint than to envelope it in splints of leather, undressed with oil, first softened in water, and allowed to remain on to harden in the exact shape of the joint, when their edges should be rounded, and the splints covered with soft wash-leather; a large piece of new jeweller's wool is then to be laid over the patella and upper part of the joints, to prevent too much pressure of the edges; the splints are afterwards to be applied and fixed by a roller of strong stuff attached to the end of one of the splints, and passed round and round the joint. Everything depends upon making it very comfortable to the patient, by paring it where it presses, and having a good layer of wool to guard the skin over the patella; if not, it is quickly thrown aside, or worn with pain and inconvenience.

This plan of supporting convalescent joints with splints of undressed leather is no novelty, for Mr. Stanley was kind enough to show me the value of it some years since; but, notwithstanding the adoption of this simple and most excellent plan by some surgeons, by the generality of practitioners it is never employed, and, perhaps, hardly known, although I do not think they have anything half so efficacious to supply its place. Knee-joints are strapped with various kinds of plaster, and rolled; but the support given by these means is quite inadequate where the joint has suffered any considerable disorganization, and, consequently, de-

formity is constantly occurring when patients begin to walk after serious disease of the knee-joint.

Besides giving great support to the joints in walking and standing, resisting the tendency to displacement, and, consequently, preventing deformity, the leather apparatus is particularly serviceable in cases of partial anchylosis of the knee-joint, more particularly where adhesive bands have been formed, which are liable to be stretched and even torn, and fresh inflammation to be set up from every little slip in walking, if the joint be not guarded by an efficient apparatus.

No strapping or rolling can preserve a joint from the effects of these accidents so well as the leather case. Being firm, it preserves the joint also from external violence; and, lastly, I consider this apparatus very valuable, by supplying an immediate, or, rather, we may call it a prophylactic remedy for inflammatory attacks.

Lancet, August 29, 1846, *p.* 242.

90.—*Treatment of Bursal Disease of the Knee Joint.*—By F. C. Skey, Esq., F.R.S.—[Mr. Skey's remarks relate to that form of disease which affect the bursa placed anterior to the patella and the ligament below it, commonly known under the title of housemaids' bursa. The bursal disease of the knee presents itself for treatment in the form of a general swelling of the sac, containing serous or puriform fluid. If unattended with pain, the contents will probably be serous merely, and the tumor soft. It is in this stage that blistering may be objectionable. As the disease advances, the mass consolidates by repeated attacks of inflammation, more or less acute, till the swelling becomes a large tumor of nearly solid consistence. As to the communication of bursæ with the contiguous joint any operation, in such case would be very objectionable. But such communications are exceedingly rare, nor can Mr. Skey call to mind any example of the kind, except that between the tendons of the subscapularis and the shoulder joint, which might rather be deemed an extension of the synovial membrane of the joint under the tendon.]

Diseased bursæ, not communicating with a joint, may, I believe, be opened without danger in all situations, and in every stage of their disease. The cavities of the body, when morbid in condition, appear to be exempt from the often frightful consequences of puncture, or other form of injury, that may attack them during health. An accidental puncture into any of the larger joints is often fatal to the articulation; acute inflammation follows, destruction, and finally anchylosis. A diseased joint, on the other hand, may be punctured with impunity, and often with great advantage; of the benefit of which operation I could quote many examples.

If such amount of inflammation be excited in a diseased bursa as will produce suppurative action, an abscess will form which may be brought to a crisis if necessary by puncture: but in soft or fluid

bursæ this crisis is not requisite. The effect of a thread passed through the sac is similar to that of the same agent in the case of hydrocele or ranula, viz., the secretion is absorbed without being discharged by a wound, and the cavity is obliterated. But in the hard and consolidated form of the disease the effect of the thread is that of producing suppuration. The hard mass, as it were, breaks down into a common abscess, which, when punctured, discharges its contents, and heals. In this manner I have treated diseased bursæ for many years with success. A common thread of silk should be passed through the centre of the tumor, especially so in the hard form, in order to insure its including the central cavity, for this I believe to be necessary. The time it should be allowed to remain will.depend entirely on the effect produced. Occasionally the tumor shows great indifference to its presence; at other times, and in other persons, smart inflammation follows, accompanied with considerable pain, in the course of a day or two. The inflammation may extend over the front of the joint. The thread should then be removed, and the knee fomented or poulticed; and from that period the disease may date its onward march towards a final cure. Nothing can be more satisfactory than the steady progress these cases generally make. When the bursa is large and hard the thread should remain until a good deal of inflammation is produced, even though suppuration be established, which will be indicated by the oozing of pus from the punctures. The thread being then removed, either the abscess will become more matured, and demand relief from the lancet, or the whole mass of the disease now become fluid, will undergo gradual absorption. I have cured many cases in the early stage in three weeks, but they more frequently require a month or five weeks, particularly when the absorption of a large mass of lymph forms a necessary part of the process of cure.

When the morbid bursa is situated too deeply to allow of the application of the thread, the means I have resorted to have been injection and pressure. Such a locality is the tendinous insertion of the semi-membranosus muscle, underneath which a bursa is invariably found. This bursa is obnoxious to chronic enlargement, but unattended with thickening. The pressure of the tendon in the extended position of the leg, by forcing it outwards, gives it a more or less elongated form, and it is moreover coupled with this other peculiarity, that unless very large, it disappears when the leg is in the flexed position; but when extended the bursa is carried outwards in the form of a hard round tumor, occupying the inner side of the ham, the hardness increasing in proportion to the tightness of the tendon upon it. In this situation the bursa sometimes attains a large size. It is inconvenient, but is not attended with the evils accompanying the bursa of the patella, although I believe all bursæ and ganglions about joints are a source of weakness. I have punctured, pressed, apd injected this bursa with more or less benefit. One rather remarkable case occurred in the person of a young woman, who was aged about 30, and was exceedingly fat.

In her person the bursa in question had reached a considerable magnitude, but did not appear so large as it afterwards proved, in consequence of the unusual dimensions of her limb. I punctured it with a trocar, and drew off eighteen ounces of aqueous fluid. It filled again and was re-punctured many times, with this advantage, that it diminished gradually in size till it contained about six ounces only. I then injected it with a weak solution of sulphate of zinc, which further controlled the secretion till the disease ceased to be a source of annoyance to her. I do not think the sac was even then entirely obliterated, and I presume that ere long she will again require the assistance of a surgeon.

Connected with the subject of bursæ is that of ganglions, or adventitious cutaneous cysts, which form on the tendons about the wrist or foot.

A puncture with the point of a small lancet is a less painful and more certain remedy than a blow. The puncture may be sufficiently large only to allow the contents to be pressed through. A pad of lint, bound down with adhesive plaster firmly applied, will almost invariably destroy the cavity in twenty-four hours. A case occurred in the early part of the summer which may serve to remind us that even these cutaneous cysts will not bear rough treatment.

The cyst, which was rather unusually large, occupied the back of the wrist in a boy of eighteen. I punctured it several times, but it returned. I then passed through it a very fine thread. I was unfortunately absent from the hospital on the day of his next visit, and the thread remained for a few days beyond the usual period. Inflammation followed of a severe kind, and the boy became an inmate of the hospital for some weeks, where, having recovered from the attack of inflammation, he returned to the out-patient room with his original malady.

Medical Gazette, Aug. 28, 1846, *p.* 366.

[At the meeting of the Dublin Pathological Society, May 18th, 1846, Dr. Adams presented casts and specimens to illustrate the pathology and surgical treatment of *chronic enlargement* of bursæ of the patella. His observations were confined to those enlargements which are accompanied with *pain*, &c., as distinct from their *size*. He briefly noticed the methods which had hitherto been practised, viz., by *puncture ;* by *subcutaneous incision ;* by *injection ;* by *seton ;* by *extirpation ;* and by *free incision ;* and in order to lay before the society his own plan of treatment, he related the case of a female who was admitted into Richmond Hospital, March 14th, 1845, having such an enlargement over the right patella, and was so much inconvenienced by it, as to be anxious to be relieved by any means deemed advisable. The tumor was the size of a hen's egg; had a natural appearance; fluctuation was evident, and small foreign bodies could be distinguished in the fluid.]

On the second day after her admission, Dr. Adams opened the

tumor by a free longitudinal incision, extending from above downwards, throughout the whole extent of the enlarged bursa. A fluid of an oily appearance escaped, carrying with it numerous small pippin-shaped bodies of a whitish colour. The interior of the cyst was now inspected, and some few small bodies were found adherent by slender pedicles to the interior of the cyst: these were detached from the lining membrane of the bursa and removed; an oiled dossil of lint introduced into the bursa; light compresses and bandage applied. On the eighth day suppuration was established and a poultice applied. No inflammation nor constitutional disturbance whatever were excited. Granulations were thrown out from the bottom of the cyst, and the cysts gradually became obliterated. On the 20th day, these (the granulations) were so much raised to the level of the skin, as to demand the application of nitrate of silver. She was discharged on the 10th of April; that is, the twenty-fifth day from that of the incision having been made, and for the last ten days she has been walking about without feeling any inconvenience.

The next case he had to adduce, was that of Mary Moran, aged 28, a house-maid. She had a chronic tumor situated over the right patella, which was as large as an orange. She applied to Dr. Power, who gave her his opinion, that if she wished for a radical cure, she should go into hospital, and submit to an operation, which would confine her for at least a month; but as she was unwilling to do this, he tried a palliative plan of treatment, by puncturing the swelling, and letting off a great deal of its fluid contents. These apertures were not followed by any inflammation, but having proved of but little advantage, he advised her to come into hospital, which she did on the 19th February.

Mr. Adams made a free longitudinal incision from above downward into the tumor, and gave exit to about three ounces of a brown oily fluid, in which were seen floating shreds of lymph, and small bodies like boiled rice. The cyst seemed about three or four lines in thickness, and its interior surface was remarkably smooth and yellow, like the interior of the aorta. Towards the back part of the cyst, where it covered the patella, were seen large, round, transverse bands of yellow tissue; one of these bands was an inch long, of a cylindrical shape, and fully as large as the largest goose quill. Mr. A. then exhibited this portion of yellow tissue; he thought it thought it advisable to remove it from the cyst, to which he found it adherent by its extremities, while the rest of its surface, like some of the carnæ columnæ in the heart, was free all round. Besides these transverse fibrous bands, there were also rounded cartilaginous bodies, as large as peas, attached to the interior of the cyst by pedicles; these were cut out with their pedicles, and are here shown. As in this case the cyst had anteriorly attained such an extent, that its contents were fully evacuated, it formed a loose bag in front of the patella, which we could scarcely hope that it would contract so much as to prevent deformity. Dr. A. thought

it right to disseet the skin from the eliptieal portion of the eyst constituting its anterior portion, and to remove this eliptieal portion of the eyst. This was accordingly done, and the foreign bodies having been removed, the wound was dressed as in the former case, but the time it took to heal was longer, and the suppuration was, of course, more extensive; but there was no constitutional disturbanee whatsoever followed the operation. She left the hospital on the 29th Mareh, perfectly well; and it was truly surprising how mueh the thiek eyst softened down, and what little projeetion (beyond what is natural of the skin) remained. A cast of the knee, taken by Mr. Greene the day she was diseharged from the hospital, shows what little deficieney is observable; a line of eieatrix, about two lines broad, and two inehes long, from above downwards in front of the patella, alone remains.

Excision of the bursa, which is situated over the patella, when in a state of chronie enlargement, has been reeommended on high authority as the best mode of proeeeding. Dr. A. has known this to have been very frequently done; and although he might admit that there may be some cases in whieh such an operation might be judieious, still he must express his belief that sueh cases should form the exception, and that, as a general rule, the operation by a free incision is by much the preferable mode. He has observed the dissecting out of the bursa to be a very painful proeeeding, and in very large tumors can well coneeive, if not eondueted with eaution, the knee-joint might be endangered. For example, let us suppose a ease such as this cast represents—the enlarged bursa measuring in its eireumference 13 inches, projecting from the patella seven inches, and, consequently, completely eovering the patella above, below, and laterally. Dr. A. remarked, that, while a free ineision from above downwards would be done in a few seeonds, with but little pain to the patient, and without any immediate danger of injuring any of the subjacent parts, exeision of such a tumor would be a most severe operation, and it is quite possible that the synovial membrane of the knee-joint might be opened, if the greatest eaution were not used; whereas the free incision from above downwards, is quickly and easily done by any one, infinitely less painful, and in those cases Mr. Adams had lately under his care, quite satisfactory—the dnformity which might be supposed to remain after the operation of incision, from the thickened cyst whieh remains, being found by experienee to be really nothing. Dr. A. prefers the operation of free longitudinal incision to punctures, injection, or seton; because although these last means may exeite sufficient inflammation, so as to produce a radical cure, they are by no means so certain; and Dr. A. thinks that any operation whieh leaves foreign bodies behind, is likely to fail in radieally euring the disease, because when these foreign bodies are pressed upon when the patient is kneeling, new irritation and inflammation arise, with a consequent recurrence of the disease.

Another great advantage of the free incision, arises from this,

that there is no constitutional disturbance following the operation. Punctures and setons, and sub-cutaneous incisions may be also followed by inflammation and suppuration of the cyst of the diseased bursa, and be accompanied by a decomposition of the fluid contents of the sac. The pus in these cases becomes remarkably fœtid, and much disturbance is produced in the system, which is not relieved until the fœtid pus and gaseous contents of the inflamed bursa are evacuated freely. All these evils are prevented by the operation recommended by Dr. Adams, of free incision from above downwards. True it is, that in cases where the cyst is thick and capacious, as it was in the case of Moore, lately under his care in the Richmond Hospital, something more than a simple longitudinal incision may be found necessary, as in such cases the emptied cyst may be loose, and force a way in front of the patella. In such cases, all the surgeon has to do, is to remove an eliptical portion of the cyst—having previously dissected the skin from the cyst anteriorly; such an opening will allow us to see to the bottom of the cavity, and to remove with facility any foreign bodies or bands which may traverse the tumor, and which, if left behind, are calculated to cause a recurrence of the disease. In many cases the cysts are found much thicker than they were in any of the cases Dr. A. has met with; but Dr. A. is strongly inclined to believe that in all cases the cyst will be absorbed, if the plan of free incision, and subsequent mode of dressing here recommended be adopted.

Dublin Hospital Gazette, May 1, 1846, *p* 280.

[Mr. J. Richard, of Leamington, recommends passing a bit of sewing silk through the centre of the bursa, and letting it remain three days. If the inflammation has been much he enjoins rest, applies a few leeches and the liq. plumbi lotion previously to introducing the silk.]

Dublin Medical Press, Oct. 7, 1846, *p.* 280.

Reproduction of Diseased Bursæ.—There is a bursa between the patella and the skin, and this, in housemaids, sometimes becomes diseased, and converted into a hard lump or tumor. I have frequently removed such a tumor from the knee of a housemaid, and some time afterwards, on examining the limb, I was satisfied that the bursa had been regenerated. Nor is this a mere supposition; I have positive proof that the fact is as I have stated it. There was a woman in the hospital from whose knee the late Mr. Rose removed an enlarged bursa. A year or two afterwards she returned, and came under my care; and not only had the bursa been regenerated, but the new one had become diseased like the old one, and I had to repeat the operation which Mr. Rose had performed formerly. She had gone back to her former occupation, which included a good deal of kneeling, and, under the influence of pressure, the new bursa had become converted into the same diseased structure as the old one.—*Sir B. Brodie's Lectures on Pathology and Surgery.*

Medical Gazette, May 8, 1846, *p.* 829.

AMPUTATIONS,

91.—ON AMPUTATION OF THE THIGH.

By James Syme, Esq., Professor of Clinical Surgery in the University of Edinburgh.

[Mr. Syme says,]

Notwithstanding the share I took in introducing the flap operation, and the confident persuasion of its superiority formerly entertained, I have long felt occasion to point out some serious inconveniences apt to attend its performance; and I am now satisfied that there are circumstances in which the circular incision ought to be preferred.

In favour of the flap operation, it is contended,—1. That the process, from its facility and rapidity of execution, must be less painful to the patient than the circular incision; and also renders it unnecessary to use a tourniquet, as manual compression in the groin may be effectually employed during the short space of time required for its performance, so that the limb may be removed at any part of its extent, and without the inconvenience alleged to result from the pressure of a tourniquet, in regard to ligature of the vessels. 2. That the soft parts may be readily fashioned, so as to afford an ample covering of muscle and integument of the bone. And 3. That the different textures of the stump, being allowed to preserve their natural connections, are more capable of sound union, than when detached from each other by dissection and retraction. In objection to this method it is said,—1. That the rapidity and execution is apt to prove hurtful in subjects of defective strength, by producing a shock similar to that of a gun-shot wound. 2. That the vessels being cut obliquely, are secured with difficulty. 3. That the wound is of greater extent than the surface resulting from circular incision. And, 4. That though the flaps afford an ample covering for the bone in the first instance, the contraction of their muscular substance gradually withdraws them from it, during the process of healing, so that there is ultimately nothing more than the skin, and frequently not even this, to protect the osseous surface. The grounds upon which the circular operation is maintained, are,—1. The greater facility which it affords to ligature of the vessels. 2. The smaller size of wound resulting from it. And 3. The more permanent covering which it affords the bone.

In subjecting these various arguments on both sides of the question to the test of experience, it may be remarked, that they are not all of equal value; some of them relating to matter of mere convenience, while others regard consequences of the most serious nature. The great questions at issue are, Which operation least

endangers the patient's life? and, Which affords the most comfortable stump? Now, every one who has witnessed the flap operation extensively and indiscriminately for amputation of the thigh, must have seen a large proportion of deaths, and in the event of recovery, not unfrequently a condition of the stump no less unsightly than inconvenient. Such are the undeniable facts, and their explanation presents little difficulty to any one who has had sufficient opportunity of observation.

So far as the mere performance, or early consequences of the flap operation, are concerned, nothing can be more satisfactory. The incisions are executed almost instantaneously, and the whole process is completed with a degree of facility, dispatch, and ease to the patient, that presents a remarkable contrast, when compared with the delay and suffering, from complexity of procedure, necessarily attendant upon the circular method.

When the flaps are placed together, it seems as if nothing could prevent their perfect union, so as to effect a speedy cure, and afford a comfortable covering to the bone. In some cases these favourable anticipations are fully realised; but though a good many days, and even one or two weeks, may elapse without making manifest the disappointment to be experienced, it much more frequently happens that the soft parts, however ample they may have appeared in the first instance, gradually contract and diminish, until care is required to keep their edges in apposition over the bone, which sometimes, notwithstanding every precaution, at length becomes denuded, and presenting itself to view, whether dead or living, proclaims the unavoidable misery of a sugar-loaf stump. This distressing result depends upon the vital contractilty of the muscular tissue, which continuing in operation so long as the cut surface is not prevented from yielding, by the formation of new adhesion, not only lessens the mass of flesh provided for covering the bone, but gradually retracts it together with the superjacent integuments. The effect thus produced is favoured by the following circumstance. In the first place, by cutting the flaps of such moderate length, that when brought together, they merely meet without straining; secondly, by sawing the bone where it is exposed by simply separating the flaps, instead of drawing the muscles back so as to divide it at a considerably higher point; and thirdly, by performing the operation at the lower third of the thigh. Mr. Liston recommends amputating at the middle of the bone, upon the ground of thus forming a more convenient stump for the attachment of an artificial limb, than would result from operating at a lower joint. For my own part, I have, during many years past, advised this to prevent the great risk or almost certainty of protrusion to which the bone is exposed when divided at or near its lower third. But the flap operation being thus objectionable below the middle of the thigh, and even higher up seldom in the end furnishing more than a covering of skin to the bone, it may be inquired, how far the circular method deserves adoption in amputation at the lower third?

The true object of the circular incision is to provide a covering of skin for the bone; and a great error has been committed by many, indeed almost all the would-be improvers of this operation, in directing their attention to modifying the division of the muscles, as if any form of their section could materially influence the result. All the attempts with this view have been directed so as in one way or other to give the cut surface of the muscles a conical form, evidently under the impression that they serve to assist in covering the bone. Now, it is quite clear, that if the ample masses of flesh afforded by the flap operation yield to the retractile agency of their tissue, the scanty portion obtained by any form of circular incision cannot have the slightest effect in improving the condition of the stump. These wrong directed efforts would have done no harm unless they had withdrawn attention from what was really required to render the result satisfactory. In this way, however, they have seriously opposed improvement, and in my own case, I confess, long prevented the truth from being distinctly seen.

The perfect condition of stump resulting from amputation at the ankle, where there is nothing but integument to protect the bone, led me to conclude, that if the circular operation could be performed with the certainty of providing such a covering, it might be employed with advantage in the lower third of the thigh; which being the thinnest part of the limb, most readily admits of forming a stump composed merely of skin. There is also, in operating here, plenty of room to apply the tourniquet without impeding the incisions or retraction of the muscles, and the size of the wound inflicted is, of course much smaller than that of an amputation at the middle of the thigh. In the course of this summer I have performed the operation four times, on adult patients, with the effect of confirming the favourable expectation which the considerations just mentioned had led me to entertain; and I now feel warranted to advise, that whenever a case requiring amputation of the thigh admits of the limb being removed at its lower third, the circular method should be employed.

The compress of the tourniquet should be applied over the artery close to the groin. Instead of the old-fashioned concave edged, thick-backed amputating knife, a middle-sized one of the kind employed for the flap operation, will be found more convenient. The incision of the skin should be made as near the knee as possible, not in a circular direction, but so as to form two semi-lunar edges, which may meet together in a line from side to side, without projecting at the corners. The fascia should be divided along with the integuments, which are thus more easily retracted—not by dissecting and turning them back, but by steadily drawing them upwards, through means of the assistant's hands firmly clasping the limb. This should be done to the extent of at least two inches, or more, if the thigh is unusually thick. The muscles are then to be divided as high as they have been exposed, by a circular sweep of the knife, directly down to the bone, from which they must be

separated and retracted with the utmost care. In ordinary circumstances, the retraction should not be less than two inches, and, before using the saw, the bone must be completely exposed by means of a cloth split up the middle. applied on each side of it, and forcibly held up.

If due attention be paid to these directions, I feel confident that amputation by circular incision at the lower third of the thigh will afford satisfactory results, and should therefore be preferred to the flap operation, at a higher part of the limb, when the circumstances afford room for choice. Where it is necessary to amputate at or above the middle of the bone, there can be no question as to the propriety of operating by the flap method.

Before arriving at the conclusion which has just been explained, I thought that amputation at the knee might be employed with advantage, as a substitute for the flap operation, at the middle of the thigh; and my own opinion would still be so, if this alternative afforded the only room for choice. I operated at the knee with complete success in three cases, two of which were diseases of the joint; and the other a recent injury from the leg having been torn off by machinery. But as the soft parts required to form the stump in this situation, are apt to be so deranged in their texture, as to delay, though not prevent recovery; and thus, in some measure, counterbalance the advantage of exposing cancellated instead of dense bone, together with the contents of its medullary cavity, I do not persist in advocating amputation at the knee, now when satisfied that the operation by circular incision, if performed with due care, on proper principles, may be employed at the lower third of the thigh, safely and advantageously.

Monthly Journal of Medical Science, Nov., 1846, *p.* 221.

92.—*Mr. Quain's Method of Amputation.*

Mr. Quain has, for a considerable time, been in the habit of making the flaps short in the first instance, and adding to their length by circular incisions through the deeper muscles. This plan, Mr. Quain stated, has the advantage of removing one of the objections to the flap operation — namely, that in primary amputations performed on this method, when the subjects are robust, and the muscles largely developed, the mass of flap is unnecessarily and inconveniently large. It is on this account that many surgeons prefer the circular form of incision. He expressed the belief that, on this ground, in places where primary amputations are frequent (as in manufacturing and mining districts) the circular operation was likely to be found most suitable; and, on the contrary, where accidents are of unfrequent occurrence, and amputations are resorted to in consequence of disease of some continuance, (as, for instance, disease of bone, or of joint,) the flap operation is not unlikely to be in favour among surgeons. He (Mr. Quain) always made flaps in the first incisions, and then divided the deeper parts by circular in-

cisions, thus, at the same time, removing a part of the deeper muscles, and providing a more efficient covering for the bone. The plan undergoes some modifications, adapting it to different parts of the limbs. Modifications are necessary, in consequence of the very different manner in which certain parts are clothed with muscle—e. g., the leg and the forearm.

Lancet, May 30, 1846, *p.* 593.

93.—*On Amputation.*—By F. A. Bulley, Esq.

At a meeting of the Reading Pathological Society, Mr. Bulley read a short paper on some of the disadvantges which he considered to attend the flap operation for amputation. He thought it was a much more painful operation than the circular one, and that in the aggregate it took a longer time in its performance. More painful, from the greater extent of the integument divided, and from the oblique incision of the nerves; and longer in performance from the oblique section of the vessels, rendering them unable to collapse, and thus, with a greater difficulty in securing them, a greater number of arteries required ligature. An eminent surgeon in London had mentioned to him, that he had been obliged to apply twenty-five ligatures after a flap operation, in which there was reason to believe, that had the circular method been employed, three or four might have been sufficient.

Mr. B. thought this necessity had arisen from the oblique section of the smaller arteries preventing their collapsing in contra-distinction to their retracting, which he believed was not the cause of the hæmorrhage stopping after amputations. He believed that arteries under a certain size were, from the absence of a muscular tunic placed under the same circumstances as veins, and were equally capable of collapsing when transversely divided. What was generally thought to be retraction, he believed was nothing more than the severed muscular fibres round the collapsed vessels contracting, and covering, and thus obscuring their ends. If the power of retraction resided in the arteries, *per se*, by reason of their muscular construction, why did not the large arteries, which were composed of a distinctly muscular coat, retract for the stoppage of hæmorrhage, as well as small ones, in which latter a muscular envelopment was scarcely discernible. The larger arteries needed a ligature he thought, simply because the density of their muscular tunic prevented their collapsing, which was not the case with the smaller ones, which were only prevented from doing so in the flap operation, by the oblique method of division to which they were subjected. In the original paper he had introduced a hypothetical argument to account for the secondary venous hæmorrhage which sometimes ensued after flap amputation, but would not recur to it now, as he was anxious not to take up the time of the Society without a definite practical object.

Dr. Bradshaw had seen an operation performed at the West-

minster Hospital, by one of the surgeons, when the flap section was used, and more time and blood was lost than by the circular operation, and secondary hæmorrhage followed, and it was the opinion of all present that the flap operation was, generally speaking, not preferable to the circular one.

Mr. May said, that he thought the observations of your reporter, as regards hæmorrhage, not very just, but that he believed we were not in a condition, from the statistics of surgery, to come to a conclusion on the subject. The pain he did not consider a matter of much importance. The section of the vessels, in turning back the skin in the circular mode, was objectionable, as dividing the nutrient vessels on which union depends, which he believed to be both practically and theoretically injurious.

Provincial Medical and Surgical Journal, Sept. 23, 1846, *p.* 450.

94.—*Effect of the General Health on the Result of Operations.*

[Mr. Ormerod, in his "Clinical Collections and Observations on Surgery," says:]

The three chief affections destroying patients after operations and injuries—namely, the general habit produced by drinking; secondly, organic disease of the lungs and kidneys, especially emphysema in the former, and granular disease in the latter; and, thirdly, tubercle,—act very differently, and at different periods. During the early period, and often for weeks after operations, patients labouring under tubercular disease do well; and it is often only at the absolute return to health, rather than during the recovery of the patient from the operation itself, that the effects of tubercle begin to show themselves. Organic disease produced by drunkeness, and habitual drunkeness, act differently; the organic disease presses heavily at every period, and may destroy life early or late; but the mere habits of the drunkard show themselves chiefly at a very early period. The patient who nearly sinks from his unsound organs within the first few days, often lags on for weeks and months in danger; but the man who has simple delirium tremens is taken ill directly, and often dies; but if he recover from his delirium, he generally gets well from the operation, and sometimes quickly.

Lancet, Oct. 17, 1846, *p.* 430.

ORGANS OF CIRCULATION.

95.—ON THE APPLICATION OF LIGATURES TO ARTERIES.

By G. J. Guthrie, Esq., F.R.S.

[After an admirable set of practical lectures delivered by Mr. Guthrie, at the Westminster Hospital, on this subject, he gives us the following *conclusions*, as being a bird's eye view of his extensive experience on one of the most important subjects connected with surgery.]

1. The Hunterian operation for the cure of an aneurism is not applicable to the treatment of a wounded artery, inasmuch as the wound of the artery communicates with the external parts, and nothing intervenes to prevent blood flowing from the wound in its side, or from its cut extremities.

2. When a large artery is divided and bleeds, the wound should be enlarged if necessary, and a ligature placed on both the divided ends; but if the artery be only injured and not quite divided, the ligatures should be applied, one immediately above, the other below the injured part. The artery may or may not be then cut across, at the pleasure of the operator, but the limb or part should be placed in a relaxed position. A bandage should not be applied, and the edges of the wound should be simply brought together by adhesive plasters, which do not extend completely round the limb.

3. No operation is to be performed on any artery unless it bleeds at the moment of its performance, inasmuch as hemorrhage once suppressed may never return.

4. The intervention of muscular fibres, or of whole muscles, is not a sufficient reason for tying the artery at a distant part. They must be divided, if it be possible, to the extent required for a due exposure of the injured artery and its accompanying veins and nerves.

5. If the wound pass indirectly to the principal artery, from the back of the thigh for instance to the femoral artery in front, or from the outside of the arm to the humeral artery on the inside, the surgeon may (on satisfying himself of the part likely to be injured, by the introduction of a probe) cut down on the vessel opposite that supposed to be wounded, by the most simple and approved method. When the artery is exposed, the probe will point out the spot at which the vessel has in all probability been wounded. Pressure made below this spot on the artery, will cause it to be distended and to bleed, if the flow of blood be not prevented from above; the artery is then to be secured by two ligatures, and the lower one should if possible be applied first.

6. The tourniquet should never be applied in an operation for aneurism or for a wounded artery. Compression by the hand in the course of the wounded vessel is allowable.

7. The blood from the upper end of a divided artery, or that nearer the heart, is of a scarlet arterial colour.

10. The blood from the lower end of a divided artery, or that which is further from the heart, is of a dark or venous colour, when it happens to flow immediately after the division of the vessel. At a subsequent period it may assume more of the colour of arterial blood, but it rarely does so for several days after the receipt of the injury, and always flows, or at least until a very late period, in a continued stream.

11. This regurgitation or flow of blood from the lower end of a divided artery is a favourable sign, inasmuch as it shows that the collateral circulation will probably be sufficient to maintain the life of the extremity.

12. The collateral circulation is in almost every instance capable of maintaining the life of the upper extremity when the axillary artery is divided, and the colour of the blood which flows from the end of the artery, on its being divided, is not always as dark as in the lower extremity, and it sooner resumes its arterial colour.

13. The collateral circulation is not always capable of maintaining the life of the limb when the femoral artery is injured. The best assistance which art can give is to rub the foot and leg in the gentlest manner, between the hands of one or two strong young women, for several hours, or even for the first three or four days; relaxing this process very little, even during sleep. When the vein is divided at the same time, or rendered impervious, the limb usually mortifies.

14. The collateral circulation is sufficient to maintain the life of an extremity in almost every case in which an aneurism has existed for eight or ten weeks, although it may be incapable of doing this if the principal artery have been suddenly divided, without any previous disease having existed in the part.

15. The theory and the operation for aneurism are never to be applied to the treatment of a wounded artery, which has caused a diffused or circumscribed aneurism, *whilst the external wound communicates with the artery*, unless it be impossible or impracticable to tie the bleeding vessel.

16. When an artery has been wounded, and the external opening has healed for weeks or months, so as to give rise to a diffused or circumscribed aneurism, it may be treated according to the theory of aneurism occurring from an internal cause, if the case will permit it without danger, although with this difference, that as the artery is sound the operation may be performed close to the tumor. If any doubt exist as to the capability of the collateral circulation to support the life of the lower extremity, when the external iliac is secured by ligature, the operation should be performed at the injured part by opening the swelling and enlarging the wound, as in the case of a wounded artery.

17. When a circumscribed or diffused aneurism which has formed after a wound has been opened, whether by accident or design, it is placed in the situation of a wounded artery, and should be treated as such. If the aneurism has arisen from disease of the vessel, and the wound or opening into it cannot be permanently closed, the limb is in a worse state than if the artery had been wounded by accident; because a ligature or ligatures placed on a diseased artery are little likely to be successful. They are liable to all the difficulties and inconveniences attendant on the old operation for aneurism. If a case of the kind should occur in a popliteal or femoral aneurism, situated at or below where the artery passes between the triceps and the bone, amputation, if it can be done low down, will be the best remedy. If the aneurism should have formed higher up, and the opening can be closed with any prospect of its healing, a ligature may be placed upon the artery above it; but on the recurrence of hemorrhage which cannot be restrained by moderate pressure, the artery must be tied below, or recourse had to amputation. It is, however, to be observed, that amputation under these circumstances, when resorted to as a third operation, rarely succeeds.

18. When an artery is wounded with a simple fracture of a bone, or with a comminuted fracture of the smaller bones, with an external communicating opening, both ends of the artery should be secured, and the limb treated in the usual manner.

19. When the bone broken is the femur, and the artery divided is the femoral artery, the operation of amputation will generally be advisable. It will always be so if the fracture is a comminuted one, or the shaft of the bone is extensively split.

20. When the broken bone injures the artery and gives rise to an aneurism, the treatment is to be first of the fracture and then of the aneurism, as soon as circumstances render it advisable or necessary to have recourse to the operation for aneurism, and which can only be after time has been given for the collateral branches to enlarge, so as to maintain the life of the limb.

21. When mortification takes place in addition to, or as a consequence of, a wounded artery, amputation should be had recourse to forthwith.

22. The place of operation should be in almost all cases at the seat of the original wound; but there may be an exception, viz.—

23. When the injury has been a mere cut, just sufficient to divide the artery and vein immediately below Poupart's ligament, and mortification of the foot supervenes, amputation should be performed below the knee, or at the part where the mortification more usually stops for a time.

This rule is founded on the observation, that great efforts are made by nature to arrest mortification a little below the knee. Sometimes they succeed; when they fail, death is almost inevitable. The advice to amputate at this part is founded on the fact of its being infinitely less dangerous, when done there, than on the thigh, independently of saving a joint.

24. When mortification has *continued for several days*, and is spreading without having once stopped, the constitution of the patient being implicated as marked by fever, amputation should not be performed until the mortification has been arrested and the line of separation has been well formed. In many cases, where there is great weakness or of irritability of constitution, it will be advisable to defer the operation to a later period, particularly if there be hope of the patient's becoming stronger and more tranquil.

25. If the mortification has once stopped and then begins again to spread, it will never again cease to extend, and amputation may give some chance of life.

26. Amputation of the arm should never be had recourse to, in consequence of a wound of the axillary artery, unless mortification takes place.

27. When mortification takes place after the operation for aneurism, the surgeon must be guided by the state of the patient's constitution, in resorting to or refraining from amputation.

28. When hemorrhage takes place from the surface of a stump, the artery should be tied at the part from which the blood comes in the first instance, if it can be easily done. If this should not suffice, the artery must be tied higher up, just at such distance as will afford a fair hope of its not having been affected by the derangement of the stump, which has led to the failure of consolidation in the extremity of the artery, and yet not too high to admit of the junction of any large collateral branches. If the bleeding proceeds from several small vessels, and cannot be arrested, the principal trunk should be tied above the diseased part, and the patient removed to a purer atmosphere, without which, the operation rarely succeeds in any case.

29. When an aneurismal tumor mortifies, it is unnecessary and improper to tie the artery above the tumor, because it will be obliterated if the mortification be arrested by the efforts of nature, which the operation may interfere with, and even prevent, whilst, if the mortification spreads, it will be a matter of superorogation, and only hasten the patient's dissolution. When an aneurism inflames, is opened by ulceration, and bleeds profusely, it is a proper case for amputation, if such an operation can be performed.

Medical Times, July, 4, 1846, *p.* 266.

96.—*The Hunterian Method of Tying Arteries.*—By T. W. King, Esq.—[Mr. Wilkinson King shows that the Hunterian method of tying vessels was not really by *cutting* ligatures, as are now generally used, and that the operations were not the less successful. He brings numerous cases forward on this interesting subject:]

Mr. Hunter observed, "that in dogs, the mere exposure of the tibial artery to the air for about an hour, excited such a degree of inflammation and thickening of its coats, as completely to obstruct its canal." Mr. Frere gives a very pretty drawing of the tibial of a horse, thickened and narrowed by recent active inflammation, in

consequenee of pressure used experimentally. We see inflammations, granulations, and contractions, closing up wounded arteries of limited size, and shutting up the vessels in vomical cavities.

A eertain hypernutrient action, or a subsequent eontraetion, may, in spite of aortic distension, close up the orifice of the eoronary artery, the carotid or intereostals, and narrow the aorta itself as well as its main branches.

It is a similar effect when the tissues of organs beeome condensed almost to the exclusion of blood, and it is a momentous reflection that very little more than granulations about an artery may contract to the blocking up of the ehannel.

In Mr. Hunter's third attempt to secure the femoral artery for poplitcal aneurism in a man æt 35, a single ligature (including also the vein), was applied, "so slightly as only to compress the sides of the artery together, sufficiently tight to prevent the pulse in the sac without injuring the coats of the vessel." The separation took plaee on the 14th day, and on the 28th the patient seemed well. The sac suppurated, and the cure was complete by the 12th week. In his fourth case the vein was excluded; the thread separated on the 29th day. Suppuration and ague delayed the cure for three months. The fifth patient was a man, æt 42; the ligature eame off on the 11th day; he was well by the fifth week.

Mr. Lynn's patient was aged 25; a broad ligature was tied so as to cut off all communication with the tumor in the ham; it eame off on the 13th day, and he was well in a month.

Mr. J. Earle, on a man æt. 50, employed a simple ligature, whieh separated on the 15th day with the best success.

Sir E. Home's second or supplementary paper contains similar cases. He operated on a man, æt. 32; the thread came off on the 11th day, and the cure was eomplete in five weeks; and on a man, æt 36, the separation was on the 12th day, and on the 28th he was well. Sir E. put a ligature on the femoral of a man, æt. 33; it came off well on the 12th day. On the 32nd, the like was done to the opposite vessel, which after 13 days gave rise to repeated bleedings. These were finally subdued by pressure, &c. Mr. Knight tied the vessel for a man, æt. 35. There was a slight hæmorrhage from the wound on the 23rd day; the separation was on the 31st, and the cure speedy.

All these ten successes I must conneet with the gentler ligatures, although I may be wrong. It seems quite eertain that they long preceded the odd discovery, of what happens on tying an artery with force enough to cause that sudden giving way of almost every thing, which is felt almost unpleasantly even post-mortem.

Early in the 17th century, M. A. Severinus onee tied the femoral with success. In 1688, we learn that Bottentuit sueceeded with a simple ligature; and before 1772, Guttani exposed the inguinal, and with graduated compress or roller closed it speedily. All this I attach to loose ligatures rather than cutting ligatures; always remembering, however, that inflammation of the arterial tunic may

casually aid the final contraction of the orifices, while the indispensable sealing of the divided vessel in the absence of such casual contraction, depends essentially on external fibrous tissue, as it were two little acorn cups united by their stalks, new growth fashioned by definite tractions and tensions. The products of diffused inflammation around may be useless or mischievous, but the shining threads or bands stretched over and between the two compressed ends of the artery (as they gradually recede from each other), close over the separating ligature, and are invaluable and alone indispensable. Violent inflammations may leave unequal consolidation and contractions even to obliteration of vessel for inches.

Scarpa's cases afford some remarkable evidence in favour of slow ligatures, and even of late hemorrhage. (See his Appendix.)

For a man, æt, 25, he cut open a femoral aneurism, and applied two moderate ligatures. There was bleeding on the 11th day, stayed by his reserve ligature with compression. The separation was on the 20th, and the cure good. (1794.)

A man, æt. 33, had a sixfold thread put on the femoral with one of reserve. They came away on the 16th; after the 20th there were bleedings, but the case did well. (Morigi, 1796.)

Scarpa's full plan was put in force on a man, æt. 42. Two sixfold ligatures with compresses were put on the femoral. They came away on the 18th. A little blood oozed from exertion, but the cure was speedy. (1800.)

The same is related of a man of 46, except that there was no bleeding, and that after the 36th day fatal sloughing supervened in the sac. (1799.)

And again, the same as the last; but the casting was on the 21st, and abscess only retarded recovery. (1804.)

One of his cases is harder to dispose of. The full treatment, if I may so speak, was applied near the profunda of a man, æt. 34. The separations seem to have been near upon the 8th day, and without any mischief. (1803.) What would the cutting ligatures have done?

His full plan was thrice employed with success on the brachial, the six ligatures separating all between the 10th and 13th days. Latterly, Scarpa had again and again fair success by applying a loose ligature over plaster on the femoral artery only for four days. Just so likewise on the brachial artery.

Mr. P. Crampton applied a tape $\frac{1}{3}$ of an inch wide, by means of a presse-artère on the superficial femoral, and the tightening was stayed just as the tumor ceased to beat. After two hours the tape was somewhat loosened, and at the end of 24 hours completely relaxed. In due time the aneurism seemed to be fairly stopped. Mr. Dease did the like operation, continuing the pressure for about 24 hours. The cure seemed complete in a month. (*M. Ch. Trans.* vol. vii, 369.)

Sir C. Bell left a thread quite loose around the artery of an

animal; the vessel became filled with clot, shewing that the coats inflamed.

Sir C. Bell (*Institutes of Surgery*) distinctly observes, "It is not neeessary to draw the ligature so as to eut the inner coats of the artery, and it is not safe, unless in young and healthy subjects, and in amputations. You will observe that the important eonsideration is, the mode in which a ligature should be employed in old arteries subject to aneurism. It is very dangerous to apply the experienee acquired in operating upon the healthy subject to the subject of aneurisms—far less is it safe to draw eonclusions from experiments on brutes! Any mode of seeuring the artery will do in the young and healthy individual, and in amputation."

The latitude which Sir Charles gave his pupils, seeing he was almost singular in his doctrine, may seem natural; yet I must think it beyond the point of safety in any ease. It would have been well to explain fairly what he deemed "folly." One modern declares for tight ligatures, even exaggerated with an adjeetive oath.

Sir Phillip Crampton eertainly ranks with Sir C. Bell as an opponent of the over-daring followers of Jones.

It will be seen that I regard eure after hæmorrhage as a proof that the main sealing is external; and it will be understood that what I deseribe as the sole essential repair, is consistent with the least of what is called inflammation, and the seantiest material reformations. It is certain that the least diffused inflammation consistent with the injury done to a healthy body, is that on whieh we ought to reason when considering healthy repair: the more complicated case follows—thickening and contraction of vessel in the seeond place; inflammatory ehanges within, in the third place.

I regard as quite insignificant the eommon, narrow, eonical clot, small and loose, except that its base or nucleus is attached to an inorganie effusion the size of a pin's head, where the vessel is gathered up to a mere point.

Medical Gazette, May 15, 1846, *p.* 855.

Home, or probably Hunter, makes a plain inferenee, "that simply taking off the foree of the circulation from an aneurismal artery is sufficient to effect a eure of the disease, or at least to put a stop to its progress, and leave the parts in a state from which the actions of the animal economy are eapable of restoring them to a natural one."—*London Medical Journal*, viii. 130, 1787.

The eommon theory, that the cure of aneurism depends on some previous quiescence of the blood facilitating eoagulation, or that coagulation preeedes the eure, is to me very problematieal, and, I might add, apparently needless.

We have, as I eonclude, to a demonstration, a diminished impetus of the blood entering the sae, which is less dilated and more able to contract. We have also, all around it, inereased impulses and nutritions. The balance of internal and external forces is

altered. Distension is diminished, compressions prevail, and every step gained makes the remainder still more easy, and the return of distension more difficult.

The less coagulation in the repairing sac, the more rapid its contraction; it is, in truth, only the fluid that ever yields to pressure, transudation. or absorption; first, the live blood, and then partially the fluid in the clots. Thirteen years only induces a slight contraction of the laminated mass in a cured aneurism. It is ever brown fibrin.

Of course it is not intended to apply this to diffused extravasations, whether coagulated or not.

The aneurismal sac wastes as it shrinks, and almost without limits, unless some internal persistent solid arrests its decline by a measure of counter-tension.

Mr. Wardrop seemed to cure a fearful aneurism at the bottom of the neck in an old lady of 75, by ligature of the carotid above. The thread separated towards the fifth week. Dr. Bush did the operation for carotid aneurism on a female of 36, with success. The separation was on the nineteenth day. An aneurism of the innominata seemed to be cured in a man of 30,* by a ligature on the carotid, which hung on three months. These cases are all recorded by Mr. Wardrop (on Aneurism.)

Dr. Campbell's operation was like the last. The tumor at first subsided, but on the nineteenth day reappeared, with pneumonia, &c., fatally. The aorta was involved in the dilatations.—(*Hay's Journal.* July, 1845.)

Mr. Wickham tied the carotid and subclavian for innominata aneurism. The man was 55, and wasted. The carotid ligature produced direct relief; it came off in fourteen days, and six or seven weeks later, dyspnœa, &c., led to the tying of the subclavian, with some fair alleviation. The silk came away on the twenty-second day, and the wound healed. Seven weeks from the last operation the sac burst outwardly, and the next day he died. The root of the innominata was pretty sound. Brasdor's plan was here perfected, but the tumor went on as an aortic aneurism.—(*Med. Chir. Trans.* vol. xxiii.)

Sir Edward Home tied the inguinal artery for aneurism of the external iliac, but without at all arresting the disease.—(Vide footnote, *Med. Gaz.*, vol. i. p. 88.) Dupuytren tied the axillary, but bleeding was fatal, as I have related, *Med. Gaz.*, Jan., 1846, p. 596.

Thus it appears the principle of Brasdor is of limited application, and there is some show of reason why different cases should succeed and fail. May we not suppose that an aneurism with two outlets shall, when one outlet is closed, have systolic reflux enough at its entry to lead to cure? *i. e.*, of course, in particular cases.

This kind of reflux may operate under other circumstances. Is

* Mr. Evans's case of Belper. Eight days from the operation the brachial became plugged ; by arteritis (?)

not this the history of the epigastrics after birth, and of the artery on either side of a ligature in the absence of branches and of clots? (The clots obviate mere adhesion; their final organisation is a baseless fancy.) The artery is found contracting and wasting almost to its very root or source.

Elastic tubes are always emptying themselves at one end and filling at the other, the cardiac dis-*tension* must decrease from the last point. In other words, a tide wave in elastic tubes would decrease in force as it flows, to exhaustion. May not frictions, tortuous canals, varying external pressures, add to this?

Mr. Hodgson and Sir A. Cooper record instances of the closure of the common carotid and subclavian by the pressure of aortic aneurisms, and Mr. Wardrop has very happily shown the dilatation of a primitive artery compressing a secondary trunk; and this, comparing the tensions in the two cavities, may be reasonable, but, as I have elsewhere hinted, it is a physical mistake to suppose that the *dilating sac* may compress the artery which supplies it. The arterial distension decreasing from the heart cannot be greater in the sac than in the tube from which it is filled, but is rather less. The increasing sac grows all ways as parts yield, but the artery is least of all capable of yielding to become compressed.

The study of the natural effects of physical extensions and pressure, coarse or minute, is hardly yet begun; the pathology of the case is still more in the dark, yet nothing is so fundamental and essential in practice. Here is, in very truth, a *principle of the profession.* Though constantly adverting to the doctrine, I leave its systematic display to those who are expert at borrowing. What I here advance will find its corroboration in former papers.—(Vide *Med. Gaz.*, May, 1845, &c.)

Medical Gazette, May 22, 1846, *p.* 901.

[The following opinion of Chelius will be found in Mr. South's translation of the eminent surgeon's "System of Surgery," and, as it bears upon the preceding paper of Mr. W. King's, we subjoin it, although we venture to think the practice questionable:]

I do not believe it needful to draw the silk so exceedingly tight as commonly recommended, for the purpose, as it is said, of cutting through the internal coat; it should be drawn so much that the whole of the internal coat be brought into close contact, and that the silk should indent the internal coat of the vessel: in other words, the ligature should be tied moderately tight. I do not believe that cutting through the internal coat is absolutely necessary for the safe application of a ligature. A thread applied around the carotid artery of a dog so loose as not to interfere with the passage of the blood, is sufficient to cause inflammation, which will block it up completely, as was proved by an experiment made by my able master, the younger Cline, and which I myself have repeated with the like result. In the museum of St. Thomas's

Hospital there are two preparations, in which the femoral artery was tied with a broad tape, and (the tape) removed after some hours by the elder Cline, in cases of popliteal aneurism. In one case, the artery being laid bare, a double tape, about an inch broad, and one piece lying on the other, was passed by means of an instrument behind the artery. The piece of tin which conducted the tape was cut off, and a cork nearly an inch long was laid upon the artery, and confined to its situation by means of the upper tape, producing, in this way, a sufficient pressure upon the vessel included between the ligature and cork to stop the circulation, was left loose. The intention of securing the artery in this way was to compress the sides of the vessel together, and produce union without ulceration. On the ninth day the tapes were removed, and everything seemed to be going on very favourably, when the patient was attacked by a fever, supposed to have been caught from another patient in the same ward, of which he died on the seventeenth day after the operation. On examination of the limb after death it was found that ulceration had taken place through the whole extent of the artery included in the tape, and sinuses were formed both upwards and downwards in the course of the thigh to some distance. In the other case, similarly treated, the operation was successful, but the patient died, three months after, of diseased lungs. Both these preparations are in the museum of St. Thomas's Hospital.

Crampton (now Sir Philip) of Dublin, holding that the division of the internal and middle coats is precisely the kind of injury which a diseased artery is least able to bear with impunity; and that "accordingly, secondary hæmorrhage, or even aneurism, is not an unfrequent consequence of this operation," adopted a modification of Cline's use of a temporary ligature. "The femoral artery was laid bare, at the usual place, by an incision not exceeding three inches in length, and a tape one-eighth of an inch in breadth was passed under it by means of an aneurism needle. The ends of the ligature were passed through the holes in the foot of the *presse-artère*, and then crossed through the hole in its stalk. The artery was gently compressed by drawing the two ends of the ligature in an opposite direction, until the pulsation had ceased. The ligature was then secured by passing a small peg of wood through the hole in its stalk" Soon after the patient had excruciating pain in the calf of his leg, and this continuing, at the end of two hours Crampton "determined to relax the ligature, as well as to ascertain how far the pain was excited by its presence, as to observe what progress had been made in the process of coagulation; the peg was withdrawn from the hole in the stalk of the instrument, and the ligature was thus left at liberty to yield to any impulse that it might receive from the artery. I watched for five minutes with my hand upon the tumor, and, as the pulsation did not recur, the peg was replaced, so as to secure the ligature at the degree of tension it now possessed.' After forty-four hours the

ligature was completely relaxed; there was no pulsation in the ham; and, on the following day it was removed, and the patient cured. Dease, of Dublin, also performed the like operation, and loosened the ligature five hours after; but a minute after, "a deep and obscure pulsation was discerned in the tumor, which became more distinct every moment." The ligature was immediately tightened, and the pulsation ceased. Nineteen hours after, "the ligature was again completely loosened: we waited with great anxiety for nearly an hour, but the pulsation returned no more."; The patient recovered. Crampton's instrument consists of a short cylinder, having a foot at bottom, pierced on either side with a hole for the tape, which, having been passed through a transverse hole near the top of the cylinder, where they are crossed and tied, a little screw works down upon this tie, by which the ligature can be tightened."

The first of Mr. Cline's cases related above, proves that the compression of the artery by means of a broad ligature is no safeguard against ulceration of the vessel, and the pain suffered by Sir P. Crampton's patient indicated a circumstance which would in a large proportion of cases render an operation of this kind dangerous if not impracticable. The branches of the saphenous nerve are not frequently so intimately attached to the femoral artery as they probably were in this case, but we have known great pain occasioned at the moment of placing a ligature around the vessel; and the pressure of a broad fold of linen, or a *presse artère*, must always tend to render the surrounding suppuration and inflammation far greater than would usually result from the presence of a small round ligature. And where important nerves lay in the close vicinity of the vessel, as in the case of the primitive carotid, innominata, and subclavian, the use of such an apparatus could not be contemplated for an instant.

Medical Gazette, Oct. 9, 1846, *p.* 631.

97.—*Ligature of both Carotid Arteries for a Remarkable Erectile Tumor of the Mouth, Face, and Neck.*—[By J. Mason Warren, M.D., one of the Surgeons of the Massachusetts General Hospital.]

Albert Tabur, from Maine, 23 years old, consulted me on October 1st, 1845, for an enormous tumor of the lower lip and tongue, which had supervened on a mark occupying a good part of the face and neck, and now presented the following appearances.

The head of the patient was larger than common: the left side of the face was almost wholly occupied by a discolouration, which was originally less extensive and lighter coloured, but had now attained the extent and appearance above mentioned. The right side presented a discolouration about half the extent of the left. The lower lip was much enlarged, everted, and gave three aspects: externally, the thick tumefied lip; internally, a fungoid tumor, covered by red granulations distended by blood, as if ready to break through; the whole surmounted by an irregular ulceration

break through; the whole surmounted by an irregular ulceration with thickened edges and a hardened base. The red granular appearance extended underneath the tongue through the ranular space to the inferior surface itself, the left half of which was enlarged to double its natural size and partially protruded between the teeth; its upper part being the seat of five or six small ulcerations. The discolouration of the face also extended on the outside of the lip downwards over the chin and neck, covering a space of seven or eight inches in diameter, the whole, especially that on the face, being rather more full and distended with blood than natural.

The history of the case was this. The mark, as above stated, was congenital. About four years since the lip and tongue began gradually to swell, and the former very shortly ulcerated. The ulceration has occasionally healed since that time, until the last year, when it has been permanently enlarging. On making pressure on the lip the blood can be gradually expelled, returning again immediately on the pressure being withdrawn. The same is the case with the tongue. Since the erectile tissue has been developed in the lip the discolouration of the face has become more marked, has extended, and is evidently partaking of the character of the erectile tumor in its neighbourhood.

This case was evidently a very critical one, and the two most prominent dangers which appeared to threaten him were these: First, a cancerous degeneration of the ulcerated lip; and, secondly, alarming hæmorrhage, which was likely sooner or later to take place, and which must, in all probability, prove rapidly fatal.

The following is the course I proposed to him, in consultation with Dr. John C. Warren: 1st, to have the left carotid artery tied; 2nd, after a considerable interval of time to tie the right carotid; 3rd, to attack whatever portion of the tumor remained by means calculated to produce contraction of the vessels and obliteration of the erectile tissue.

To this course, after weighing well all the dangers connected with it, the patient agreed, and on October 5th I tied the left carotid artery. He recovered from the operation, and was out in about ten days. At that time the face had become more pale, the erectile tissue and the large tumor of the lip had very much diminished in size, and the painful ulceration which surmounted it was rapidly healing. The patient seemed to be in perfect health. He was advised to go home, remain three or four weeks, and then return to have the other carotid tied: in the meanwhile to apply a strong solution of the sulphate of zinc, by compresses, to the inside of the lower lip.

Nov. 7th. When the patient returned from the country, it appeared that the tumor of the lip was diminished one half. The fulness of the face and neck was less; the discoloured parts were much paler than when he left town. The size of the tongue was less, and the ulcerated spots on it had quite healed. His health

remained good. It was determined, therefore, to proceed at once to the ligature of the carotid of the right side.

The day previous to the operation, I made a compression on the artery for about five minutes without any obvious inconvenience to the patient, and with much encouragement to myself as to the event of the next operation.

The patient being placed in a sitting posture, the carotid artery was laid bare, and a ligature passed under it. It was dilated about one-third more than its natural size. He was then placed on his bed, with the head slightly elevated; the state of the pulse was now explored, and found to be eighty in the minute. The ligature was drawn tight. At first he exhibited no change, but shortly after the pulse appeared to labour, and became slightly irregular; the only symptom noticed in the patient was that he became drowsy. After waiting about fifteen minutes the second knot was tied, and the wound dressed.

No inconvenience was experienced from this operation, farther than a slight faintness during the afternoon on attempting to raise his head. He was directed to keep perfectly quiet, and to maintain strictly the horizontal position.

On the third day there was a slight soreness about the larynx, which lasted three days. He is now, November 19th, at the end of ten days, in good health, and able to go down stairs. The face is much paler than before the last operation, and the morbid appearances are diminishing.

Nov. 26th. The ulceration of the lip is quite healed; but the lip itself is still thick and somewhat everted by the erectile tissue, which enters into its whole substance.

On examination of the part it was concluded that although this swelling was gradually diminishing, yet it would not wholly disappear without a further operation; and that, as the patient lived at a considerable distance, the disease, if disposed to return, might get beyond control before the proper remedies could be applied to check its increase. It was therefore determined to remove the diseased portion of the lower lip by a V-like incision. Previously to this, and in order to avoid hemorrhage, the following operations were performed.

A cataract needle was plunged into the vascular texture on the left side, and carried in different directions, so as to break up and destroy its organization.

Nov. 29. A final operation was performed. A strong compression being exercised by means of two steel forceps prepared for the purpose, on each side of the lip, so as completely to interrupt the course of blood into it, a portion not less than two inches in length at its free edge was removed by a triangular incision. At first there was not the slightest hæmorrhage, the two lips of the wound remaining perfectly dry; on the compression being removed, however, blood gradually oozed from the whole cut surface. This was easily

checked, and the edges of the wound approximated by a number of points of the interrupted suture, and a powerful compressing bandage applied.

For the first twenty-four hours he was carefully watched. Towards evening a coagulum was found projecting from the wound, which was removed. From this time there was no farther hæmorrhage, or bad symptom, and the wound healed by the first intention.

Dec. 12. The patient returned home quite well. Previous to the last operation, and after the ligature of both carotids, he was present at a meeting of the Boston Society for Medical Improvement, and on the day he left town he was seen by various gentlemen of the profession.

The discolouration of the face had become much paler, and that of the neck and chest had almost wholly disappeared. The ear had lost its swollen and deep reddish colour, and had become of a natural size and of a pale aspect.

Remarks.—It is now rather more than forty years since Sir Astley Cooper first applied a ligature to the carotid artery for aneurism, and the operation at that time was looked upon with great distrust from the fear of a fatal disturbance to the functions of the brain. It has since been frequently repeated, and with as good success as perhaps any of the greater operations in surgery.

It remained to be proved, whether both carotids could safely be tied without destruction to life. One case in this country, performed by Dr. Mussey, in 1827, and two or three abroad, go to prove the practicability and safety of this operation, if done with proper precautions. The great object appears to be, that sufficient time should elapse between the ligature of the carotids to allow the collateral vessels which supply the brain to be dilated, so as to carry the quantity of blood required for the performance of its functions.

In Dr. Mussey's case, the second ligature was applied at the end of twelve days, and without any uncommon symptoms on the part of the patient. Eight years afterwardshe was well, although occasionally troubled with cerebral plethora.

Professor Kuhl, of Leipsic, tied the left carotid artery in a man 53 years old, for the cure of an extensive aneurismal disease of the scalp. This patient had convulsive motions and vomiting during the operation. A profuse hemorrhage from the tumor rendered it necessary to secure the right carotid artery on the forty-first day. The patient recovered, but not until after hemorrhages from the tumor and suppuration, and considerable trouble in the cerebral functions. Two other cases have been given by the *London Medical Gazette*, as performed by Mr. Preston, of India, for the disease of the brain. In one case the second ligature being applied at the end of eleven weeks, and in the other at the end of four weeks. In these cases, although the condition of the patient was not improved

by the operations, no severe symptoms on the part of the brain followed the obstruction of the blood through these vessels.

Other cases may be adduced, in which both carotid arteries have been obstructed by disease, such as aneurisms, or other tumors in their neighbourhood, without destruction of life. These show, that if the nature of the case forbids a resort to any of the other resources of surgery, this operation offers a reasonable chance of success and safety to the patient.

To the cases that are mentioned of partial obstruction of the vessels supplying the brain, the following very interesting one, in which all the large vessels going to that organ were cut off, is given by Dr. Davy.

"The subject of this case was an officer of high rank, about 55 years of age, who first began to suffer in health after an attack considered to be rheumatism, in 1831. In September, 1835, he was taken suddenly ill, with a tendency to syncope and vertigo, frequently returning; but after this his general health grew better; he experienced vertigo seldom, and syncope never. It was now observed, that he had no pulse at either wrist, or in the brachials. His disease was now clearly perceived to be aneurism of the arch of the aorta, with an obstructed state, it might be inferred, of the great vessels arising from it, for no pulse could be felt anywhere in the course of those vessels, in the neck, temples, axilla, or wrist. This gentleman expired suddenly, while travelling, on January 11, 1837. Upon examination of the body, the aorta was found ruptured near its base, within the pericardium. The arch of the aorta was the seat of a large aneurism filled with coagulum. All the great vessels arising from the arch were completely closed up at their origins. The upper portion of the innominata was open; the right carotid and subclavian were also open, but rather diminished in size; the left carotid, subclavian, and vertebral arteries, as far as they were examined, viz., to the extent of two inches, were impervious, being plugged up with lymph. The intercostal arteries were observed to be large."—*Lond. Med. Gaz.*

[The attempt to remove the lip without the ligature of the carotids would probably have been attended with fatal hemorrhage, and even if the patient had escaped this accident, it would have left much diseased tissue remaining.]

Remarkable Case of Aneurism by Anastomosis successfully Treated by various Operations.

The following case, treated conjointly by Dr. John C. Warren and myself, confirms the remarks with regard to the ligature of the carotids, and also possesses many other points of interest.

The subject of this case is Asa Porter, an inhabitant of Nova Scotia, a healthy man, ætat. 33. He has on his forehead, principally below the roots of the hair, a little to the right of the median line, a soft, pulsating, irregular tumor about three inches in diameter,

and from a half to three-fourths of an inch in thickness, which gives him a very formidable aspect.

This tumor is of a reddish colour, becoming redder and larger when the patient is excited, either by bodily exercise, or mental disturbance. It appears to consist of coils of vessels. It is easily compressed, and on removal of the pressure immediately enlarges again. A number of pulsating blood-vessels are seen to enter it from different directions, principally on the right side. Of these may be distinguished, first,—the temporal artery, which is in a very enlarged and tortuous state as far down as the lower part of the external ear; second,—a branch of the temporo-frontal artery; third,—the facial or angular artery from the internal commissure of the eye-lids. On the left side are seen the left temporal artery, which, with its fellow, the artery of the right side, and its accompanying veins, forms a vascular tumor at the root of the nose. The veins themselves are of an enormous size, passing down from the tumor on either side of the nose, covering and partly obscuring the internal commissure of the eye-lids. Besides these vessels, the whole scalp in the neighbourhood of the tumor seems alive with smaller arterial trunks, which are seen pulsating in every direction. which is nearly as large as the right, and the left facial artery.

On compressing the temporal arteries, pulsation in the tumor is much weakened, and when, in addition to these, the facial arteries are also compressed, pulsation ceases, aud the tumor becomes flaccid.

This tumor began sixteen years ago, without any known cause, by a small reddish spot on the right side of the forehead. It has gradually increased till lately, when this increase has been more rapid, especially within the last fortnight. There is an occasional throbbing of the carotid arteries, particularly that of the right side. The patient is also subject to distressing headaches, accompanied with increased action of the blood-vessels of the tumor, and of the head generally, This vibratory action of the arterial system of the head, neck, and upper extremities is quite remarkable. He is incapacitated by it from all active exertions, and is therefore ready to undergo any operation that promises to relieve him.

The course of this tumour, if not arrested by surgical treatment, can be readily foreseen. The morbid action will gradually involve other vessels, until the whole scalp becomes filled with enlarged arteries. The vessels of the eyelids, of the face generally, and even of the interior of the mouth, are likely to be involved in this diseased action. The patient's condition will, in this way, become almost insupportable, and his life will, perhaps, be hazarded by the rupture of the tumor, which now seems almost ready to take place.

What means should be adopted to arrest its progress? Those which naturally present themselves in the first place, are of two descriptions:—First, ligature of the carotid artery. But in this case the ligature of a single carotid might not suffice to arrest the flow

of blood into the tumor, since the vessels which supply it, although principally from the right, are partly from the left carotid. The ligature of both carotids would therefore be neeessary; but the result was less likely to be successful than in the preceding case, on account of the greater distance of the tumor from the arteries tied, and from the probability of its having other means of supply through the vertebral arteries, which inosculate freely with the branches of the internal carotid, the ophthalmic in this ease being unusually dilated. The second mode of operating which suggests itself, is to expose the different vessels supplying the tumor, and pass a ligature upon them. The objection to this course is the length of such an operation as the exposure of so many vessels would require. Are there any other means that ean be devised besides these two? The tumor is much too large to admit the safe and effectual application of caustic. It cannot be eut out without the most dangerous hemorrhage. It is too large and too much eonnected with the bone to admit the applieation of ligature *en masse* in its present state.

Four different measures were successively adopted.

1. The large vessels were interrupted by ligatures applied in a peeuliar way, *i. e.*, by needles passed under the arteries, and eompression made on them by a thread in the form of a figure 8.

2. The ligatures being insufficient to repress the action of the smaller vessels, eaustic applications were resorted to for the purpose of destroying the morbid texture, and in part obliterating it by the inflammation produced by the action of the caustic. To this end a very free application was made of caustie potash, and repeatedbetween twenty and thirty times.

3. Excision was performed of the remains of the vascular texture, after the arteries supplying it had been so far obliterated as to remove the apprehension of hemorrhage.

5. Compression by adhesive plaster and a bandage had a sensible influence in finishing the cure.

The general treatment gave important aid to the local applieations. The patient was kept very still, and for the greater part of the time in bed, with the head much elevated. His food was restricted to the smallest quantity, so that he was redueed for a time to a state of total prostration of the muscular power. During most of the treatment, if a small addition was made to his food, its bad effect was generally seen in the production of arterial vibrations and the recurrence of head-ache. Abstraction of blood, and the use of purgatives were resorted to when necessary.

It is worthy of remark, that while erysipelas prevailed all around this patient, he was never affected by it in the slightest degree during exposure of at least three months.

American Journal of Medical Sciences, April, 1846, *p.* 281.

98.—*On the Treatment of Aneurism by Compression*.—By W. R. Wilde, Esq., Dublin.—[An elaborate history of this practice will be found in the "Dublin Qarterly Journal for August, 1846," by Mr. Wilde, the talented editor of that work; in which we find a table of 29 cases—the first by Mr. Todd, in 1820, and the last in the present year, by Mr. O'Ferrall, of Dublin. Mr. Wilde ends his paper with the following conclusions:]

1. That numerous attempts have been made, during the present century, to cure external aneurisms, popliteal in particular, by means of pressure upon the artery between the sac and the centre of the circulation; and that various instruments have been contrived to effect this purpose.

2. That by such means it is more than probable that occasional cures were made.

3. That popliteal aneurism seems the most favourable for the application of pressure.

4. That to Mr. Todd is due the merit of having first fairly tried, and successfully applied the pressure treatment of popliteal aneurism in these kingdoms.

5. That no permanent position was established for the treatment of aneurism by compression, until the cases treated by Mr. Hutton, Mr. Cusack, and Dr. Bellingham, were brought before the profession at the Surgical Society of Ireland, in 1843.

6. That up to this period, the instruments made to effect the compression were defective, inasmuch as they applied the pressure on but one point.

7. That the improvement introduced by Dr. Harrison's patient, Hoey, of applying a number of clamps along the course of the artery, has done much to remedy this defect, and has afforded surgeons a very valuable hint on the subject.

8. That from the history of cases recorded by Professor Porter and Mr. Cusack, it would appear that it is not necessary, completely, to arrest the pulsation in the tumour, by pressure on the artery, in order to produce a cure.

9. That this cure is effected by means of a coagulum formed in the sac, either by lessening the current of blood flowing through the artery, or by some peculiar power of coagulation imparted to the blood, aided by the contraction of the sac.

10. That in order to effect this coagulation, galvanism has been employed, and appears to hold out hopes of success.

11. That from dissections we learn, that it is not necessary to obliterate the artery between the point of pressure and the sac, in order to produce this coagulum, and effect a cure.

12. That pressure has been tried, and produced coagulation, even when applied to the distal side of the sac.

Dublin Quarterly Journal of Medical Science, Aug. 1846, *p.* 131.

[With some of these conclusions Dr. Bellingham is not at all satisfied, especially the 7th, in which it is said that the practice of

using clamps, in order to press upon different portions of the artery was introduced by Dr. Harrison's patient, Hoey; whereas Dr. Bellingham claims this important improvement for himself, not being aware at first that a similar method was described by Begin (*Dict. de Med. et de Chirug. Prat.*), as having been employed both by Dupuytren, and M. Gama, of Strasbourg. Dr. Bellingham enters into a history of the treatment of aneurism, in a series of papers in the *Dublin Medical Press*, beginning with the number for Aug. 19, 1846, and in the *Medical Press* for Nov. 4, describes the different instruments which have been used. As this description may be useful, we subjoin it:]

The Tourniquet Truss. - The compressing instrument, which, under the name of "the tourniquent truss," was employed with success by Mr. Todd and Mr. M'Coy, has been already noticed. It consists of a band nearly similar to that of a hernia truss, except that the spring is stronger, and the pad firmer. The pad is provided with an under plate, connected with the upper by a hinge, and a tourniquet screw passing through it, has the effect, when turned off, of compressing the artery with sufficient force to check its pulsation. This instrument is stated to have been used in one or two other cases where compression succeeded; but its principal use appears to have been to compress the artery at the groin, in cases of amputation near the hip-joint; it is figured by Blasius, as "the inguinal tourniquet of Lafaye;" under this name it is described in some other works, and recommended as well adapted for the purpose.

Mr. L'Estrange's Tourniquet. – In the year 1826, a very ingenious instrument for compressing the artery in the groin, in cases of amputation at the hip-joint, or very high up the limb, where the ordinary tourniquet cannot be applied, was invented by Mr. L'Estrange, of this city. This instrument, which is made of steel, forms three sides of a square, and in each side are sliding joints to allow of their being lengthened or shortened so as to fit any patient. Each extremity is provided with a pad; one of these is laid over the artery in the groin, and by turning a screw connected with it, the vessel is compressed, while counter-pressure is made upon the sacrum by the larger pad at its opposite extremity.

Mr. L'Estrange's tourniquet differs from other compressing instruments adapted to this part of the limb, in the long arm of his instrument (which is in front) passing across the pubes, and pressing upon the artery on the opposite side to that which it encircles; so that, in amputation at the hip-joint, or of the thigh near the trochanters, the artery is compressed without the apparatus being in the way of the operator. This instrument has been employed at some of the Dublin hospitals in amputation, in place of the ordinary tourniquet; it has been also successfully used where secondary hæmorrhage followed the operation for popliteal aneurism. Within the last few years, it has been employed in this country for making pressure upon the artery in the groin in some of the cases of aneu-

rism already recorded, in which the treatment by compression is adopted.

Sir P. Crampton's Presse Artère.—In the year 1830, an instrument for the *immediate* compression of the artery in the groin, was invented by Sir Philip Crampton, which, slightly modified, was employed in several of the earliest cases where mediate compression was successfully used in Dublin. This instrument consists of a hollow splint, well padded, and of sufficient size to receive the nates and upper part of the thigh of the side on which we intend to make pressure, and sufficiently long to reach from the crest of the ilium behind to the middle of the thigh. From the upper and outer edge of the splint, a steel trap passes across to meet another from the lower and inner side; at the point where they meet, the lower is fitted with a slide, and the upper with a hinge; in addition, there is a sliding box, tourniquet screw and pad, with a sliding bar to prevent lateral motion. To the upper and inner edge of the splint a spring is attached, which embraces the opposite side of the pelvis, and is continued into a strap which passes ever the abdomen, and secures it above, while below it is secured by a soft strap which passes round the thigh. This instrument is adapted to compress the artery as it crosses the horizontal ramus of the pubis. A figure of it has been given by Dr. Fleming, in the *Dublin Medical Press*, for May 3rd, 1843; but it is now seldom used.

The Clamp.—The compressing instrument known at the surgical instrument makers' here, under the name of the clamp, consists of an arc of steel, having at one extremity an oblong padded splint, and at the other, a nut containing a tourniquet screw connected with a smaller pad: the latter, although acted on by the screw, is so connected with it as to be readily turned in any direction. In using this instrument, the pad is laid on the artery, and the vessel is compressed by using the screw, counter-pressure being made by the padded splint at the opposite side of the limb. It is constructed of different sizes, so as to be adapted to compress the femoral artery as it crosses the horizontal ramus of the pubis, or the brachial artery low down in the arm.

The clamp was first used as a compressing instrument in this city by a carpenter, the subject of popliteal aneurism, treated by Mr. Harrison. The pain occasioned by the apparatus originally in use, induced the patient to try if the vessel could be compressed by an instrument called a clamp or cramp, which is used in his business for temporarily binding portions of wood-work until the glue intended to connect them becomes dry. It answered so well, and gave so little pain, that he continued to employ it in preference to any other until a cure was effected. The workmanship of the original was, as may be supposed, rude, but it served as the model for those constructed since in this country.

At the London instrument makers' the clamp has been known under the name of Oke's tourniquet since the latter end of the year 1843. Mr. Storks, of London, informs me, that the model of this

tourniquet (which was intended for the suppression of hemorrhage) was forwarded to Messrs. Weiss by Mr. Oke, of Southampton, in September of that year, and that instruments upon this principle were manufactured soon afterwards.

The clamp, would, however, appear to be a much older invention; if we turn to the description of the instrument employed in the second successful case of popliteal aneurism treated by compression upon record, we shall find that it applies to the clamp now used. The case (which has been already noticed) occurred in the practice of Dubois, and was communicated to the Facultié de Medicine in March, 1810. The instrument (which is stated to have been constructed expressly for the purpose) "consisted of a semicircle of steel, both extremities of which terminated in pads; one was provided with a screw, the other not; the pad with which the screw was connected was laid upon the femoral artery, and, by turning it, the vessel was compressed, the counter-pressure being made by the other pad placed upon the opposite side of the limb." There can be no doubt that Dubois' instrument served as the model for that which bears the name of "Dupuytren's compressor." In Blasius' work, published at Berlin, in 1833, a compressing instrument is figured which very closely resembles the clamp; it is termed a nerve-compressor, and is referred to Moore as the inventor.

The clamp is a cheap and effective instrument, and not the least advantages which it possesses are that its construction is so simple that it is not liable to be put out of order; the principle upon which it acts is so plain as to be readily understood by the patient; and its application can be borne for a longer time and with less inconvenience than most other instruments. A figure of the clamp will be found in Mr. Teale's Retrospective Address on Surgery for the years 1844-45, delivered at the meeting of the Provincial Association, held at Sheffield in July, 1845, and published in the second volume (new series) of their Transactions. (See Retrospect, vol. xiii. p. 252.)

Messrs. Read's Aneurism Compress.—This instrument, constructed by Messrs. Read, surgical instrument makers, of Parliament-street, in this city, consists of a padded band which encircles the pelvis, and buckles in front, of a semicircle of steel which comes off from the back of this band, (into which it is so fitted that it can be adapted to either side) and terminates in a ball and ring, with a screw and pad attached. The ball and ring, through the former of which the screw connected with the pad passes, permits of the latter being pointed in any direction the surgeon may wish; when the pad has been brought immediately over the artery, it is fixed by turning a thumb-screw, which causes the ring to hold firmly the ball within it. Where the ball and ring join the semicircle of steel, there is what is termed "a quadrant," which permits of their being moved either upwards or downwards, so as to vary somewhat the point of pressure, and by turning another screw they are then secured.

This instrument, which is intended for the compression of the artery as it crosses the horizontal ramus of the pubis, or of the femoral artery a little lower down, was used in several of the cases of popliteal aneurism contained in the list already given; it is a considerable improvement upon other instruments, and its application can in general be borne for a longer period than most others, as it compresses the artery in the groin; a clamp may at the same time be applied upon the vessel in the middle or lower third of the thigh. The ball and ring of this instrument have been substituted with advantage by Messrs. Read for the fixed screw in the ordinary clamp.

Signorini's Tourniquet.—The instrument known under the name of the tourniquet or compressor of Signorini of Padua, scarcely differs from Dupuytren's compressor already described. It has the shape of a horse-shoe, and consists of two blades connected together in the centre, by means of a screw and rack. Each extremity is provided with a pad; by turning the screw those are brought into close approximation, and the compression effected.

This instrument was employed in several of the cases of aneurism treated by compression, reported from the London hospitals, and contained in the list which I have given. A figure of it will be found in Mr. Cox's memoir upon amputation at the hip-joint; it was used to compress the artery in the groin in his operation, and is reported to have answered perfectly.

Charrière's Compressor.—This is an improved instrument, upon the principle of Dupuytren's compressor, manufactured by Charrière of Paris. It consists of a semicircle of steel, made in two segments, which slide upon one another, which permits of the size of the arc being increased or diminished, so that the instrument can be adapted to any part of the limb. At each extremity is a joint "en charnière" which supports a pad, that which serves to compress the artery is movable and is connected with a screw, by turning which pressure is made; a larger pad at the opposite extremity serves to make counter-pressure. This instrument (which has not been used in this country) in figured in the sixth volume of Bourgery's Médecine Opératoire.

The Ring Tourniquet.—This instrument consists of a flexible ring of steel about an inch in width, and of a greater diameter than the limb to which it is to be applied. At one point in its circumference is a screw connected to a pad, exactly opposite is a fixed pad, and by turning the screw these are approximated. When applied, this instrument makes pressure only upon two points—viz., upon the artery, and upon the opposite surface of the limb

The right tourniquet is described in few treatises on surgery, and the name of the inventor has not been mentioned. It was used by the late Mr. Tyrrel in some cases of wound of the brachial artery at the end of the arm, which are reported in the first number of St. Thomas's Hospital Reports; the instrument was applied to the artery above the seat of the injury, with a tight bandage from the

fingers to the elbow, and in all the eases a cure was effected without the formation of an aneurism. In one instance he had an opportunity of examining the eondition of the parts after the patient's death from another disease; he found that the wound in the artery had completely united, and that the calibre of the vessel was perfect. In the last edition of Cooper's Surgieal Dietionary this instrument is also deseribed, and Mr. Cooper mentions it as being adapted to cases of compound fracture eomplieated with hæmorrhage, and to wounds of arteries.

The ring tourniquet was used in some of the cases of aneurism treated by eompression contained in the list already given; it is a light, portable, and eonvenient instrument, and though inferior to the clamp, might be oecasionally substituted for it.

The Weight.—In a ease of femoral aneurism already reeorded, a method of applying compression was adopted whieh appears never to have been previously tried, and which I found to eheck or to diminish the current of blood in the artery leading to the aneurismal sac with but little ineonvenienee to the patient. This consisted in a metal weight of from seven to nine pounds laid upon a compress or pad, placed upon the artery as it erosses the horizontal ramus of the pubis, the patient lying upon his back, with the thigh slightly flexed upon the pelvis. It was resorted to, in the first instanee, in eonsequenee of the apparatus in use having gone out of order at a time when it was impossible to have it repaired. A four pound weight, laid upon a tourniquet pad, was first tried, but not being found suffieient, a seven pound weight was substituted for it, whieh answered perfectly; in a second ease it required a weight equal to eight or nine pounds to effeet the same objeet: in both the patients preferred it to any instrument. It would therefore appear that the compressing foree necessary to cheek the pulsation of the femoral artery in the groin is about equal to a weight of from seven to nine pounds.

The weight has the advantage over eompressing instruments in its eheeking or diminishing the pulsation in the aneurism with little distress to the patient, as no eounter-pressure is required, which is often as irksome as the direet pressure. It is not, however, applicable to every artery, the vessel must rest upon a solid substanee, against whieh it ean be pressed, as in the lower extremity, where the artery erosses the horizontal ramus of the pubis. The disadvantages whieh attend this method of applying pressure are, that the weight is very easily displaced on any ehange in the patient's position, and its use cannot be continued when he falls asleep, as it requires the assistanee of his hands to maintain it in its plaee. These disadvantages were endeavoured to be remedied by an apparatus invented by Mr. Carte, of this city, which was imperfectly tried in a case of popliteal aneurism under my care some months since, and whieh I shall now deseribe.

Mr. Carte's Apparatus for applying the Weight.—This apparatus consists of three parts—viz., a belt of a peculiar shape; a receiver

in connection with it: and metal weights of different sizes. The belt which is made of leather lined with chamois, is shaped so as to fit accurately the hip, buttock, and upper part of the thigh; it almost surrounds the limb, and is secured on the outside by straps and buckles, one strap passing round the pelvis; immediately over artery a circular hole is left in the belt, about an inch or a little more in diameter. The receiver (which is termed a "hopper," from its resemblance to the part in some machines) is made of very strong leather, has the shape of an inverted cone, the small end being attached to the edge of the circular hole in the belt. The weights, which are of lead and of different sizes, have a conical shape, so as to fit easily into the receiver, and are so shaped that the smaller end will pass through the opening in the belt, and rest upon a compress or pad laid upon the artery underneath.

The advantages of this apparatus are, that it is readily applied, and not easily displaced; as the thigh belt extends over a large surface, and there is no counter-pressure, the patient will suffer little inconvenience, and the amount of pressure can be graduated by having at hand weights of different sizes: its use may be combined with a clamp upon the artery lower down the limb.

Messrs. Read's Apparatus for applying the Weight.—This apparatus consists of a cradle composed of two light flat metal hoops or rings, joined together by a connecting flat piece of iron, into which the upper part of the thigh fits, and the hoops are so constructed that their size can be increased or diminished as occasion may require. A ball and ring similar to that of the "aneurism compress," comes off from the upper hoop, but, instead of a screw, a smooth cylindrical iron rod moves in the ball, and is connected with a pad below. The apparatus is intended for the compression of the artery in the groin, which is effected by passing flat leaden weights, having a hole in the centre, down the rod connected with the pad, and their number may be increased until the necessary degree of pressure is made.

Compression by Means of Two Instruments applied upon different Parts of the Limb, and alternately Relaxed.—Notwithstanding the improvements which have taken place in the construction of compressing instruments, and the ingenuity which has been displayed in the invention of new and more perfect forms, it is almost impossible in the majority of cases to adapt any apparatus to a limb, which the patient will bear for many hours consecutively, if the pressure is sufficiently strong to diminish materially the current through the main artery. This object can, however, be attained in another way—viz., by applying two compressing instruments upon separate parts of the limb, one of which is tightened, the other not; and by thus alternating the pressure, we produce the same effect as if constant compression was maintained at one point, and the patient is enabled to keep it up for a much longer period than is possible under other circumstances.

Mr. Millikin's Double-padded Compressor.—An ingeniously contrived apparatus, intended to supply the advantages to be derived from the use of two separate instruments, was constructed some months since by Mr. Millikin, surgical-instrument maker, of Grafton-street, in this city. It had two separate pads at some distance from one another, each acted on by screws, by which separate portions of the artery could be alternately compressed. This instrument was tried in one of the cases of popliteal aneurism contained in the list which I have given, but I was informed that it did not answer as well as two separate instruments placed upon different parts of the limb.

Dublin Medical Press, Nov. 4, 1846, *p.* 289

99.—*On Pain as a Diagnostic Symptom of Aortal Aneurism.*—By Dr. O'B. Bellingham.

1st. Intense pain in cases of internal aneurism is the most certain symptom of erosion of the bodies of the vertebræ.

2nd. In addition to its severity, the pain presents two other well-marked characters—viz., 1st. It is referred not to the exact size of the lesion but to parts at some distance. 2nd. The patient suffers more from it at night than during the day.

3rd. That unless erosion of bone occurs the pain may be absent or comparatively slight, except in the cases already alluded to, where large nerves are compressed.

4th. That in aneurism of the descending thoracic, or of the abdominal aorta, where the pain has the characters I have mentioned, the aneurismal sac almost always springs from the posterior wall of the aorta, and has caused erosion of the vertebræ; whereas, when pain is absent, or comparatively slight, the sac will be found to spring from the anterior wall of the vessel, and the bodies of the vertebræ will be little or not at all engaged.

Dublin Medical Press, May 20, 1846, *p.* 308.

100.—*On the Pathological Alteration of Arteries, by Ligature and Torsion.*—By Dr. Porta.—[Dr. Porta has for the last nine years been performing experiments on animals, to find out the alterations induced upon the arterial system by the ligature. He has performed more than 600 experiments on 270 animals, most of them dogs, and has placed in the museum many of the preparations, as proofs of authenticity.

He used, in his operations, those ligatures mostly employed in practice, as catgut. silk, prepared and crude, flax and hempen threads, and hair; he found no material difference between the crude and prepared silk, or between those made of flax and hemp. He observes:]

Among the substances applicable to the ligature of arteries, catgut is doubtless the most strong and homogeneous. A series of eighty experiments proves that even of small diameter it has suffi-

cient strength to compress an artery, divide its proper coats, and maintain them in mutual contact until obliteration or division is perfect; but it differs from the other ligatures, as it does not always divide the internal wall at the moment when the knot is formed, but becoming lax by a process of softening, it sometimes allows the artery to reopen. This, however, does not interfere with the success of the operation, when the relaxation is gradual and the internal plug is formed in time.

Still, from the experiments instituted, and partly related above, it appears that catgut, a day, or even some hours after its application excites adhesive inflammation in the cellular sheath of the artery, and becomes covered by a stratum of plastic lymph, olivary in form, which surrounds and buries it. This lymph at first becomes modelled into a soft, gelatinous, adherent tissue, which gradually becomes atrophied, and generally leaves a simple cellular web; or a ligamentous substance more close and opaque, designed to isolate the ligature and the artery; or more rarely suppurative inflammation is set up in the seat of ligature, and a circumscribed abscess is formed when the ligature remains, until it is thrown off. The catgut relaxes, softens, dissolves, and becomes confounded with the surrounding cellular tissue; or the artery upon which it rested being consumed, it becomes dry and stiff, and lays bare in the layers of the cellular tissue; or becomes concealed in the peculiar tissue of the cord remaining between the truncated extremities of the vessel; or confined in a cyst, or coating of the plastic lymph which at first formed around it. The new cyst is at first simple and cellular, but afterwards it acquires consistence, and offers in its walls an external layer, strong and coriaceous, and a species of epithelium, or internal rosy, soft, mucous layer, containing the ligature and some secreted matter. This cyst is generally small, resembling a grain of rice or millet, and when thus small it is ordinarily attached and closely adherent to the ligature, following all its irregularities, thus partly assisting in the process of solution. But sometimes, by exorbitant exhalation, it becomes enlarged to the size of a pigeon's egg, or more, then resembling a true encysted tumor. In its last changes, if not discharged by the fistula remaining after the operation, it withers and remains undisturbed among the tissues where it lies, or terminates by being with its cyst completely absorbed.

When compared with catgut, silk ligatures produced much more irritation, and excited suppuration more frequently, although in many cases simple adhesive inflammation alone was produced. Like the catgut, they are first covered with plastic lymph, then connected with the cord remaining between the two extremities of the artery, or they lie bare between the layers of the common cellular tissue, or become encysted. If not thrown off, the silk may remain inert during life; yet in some cases the author says he has succeeded in demonstrating that after a long time it becomes softened, and may be absorbed. In one hundred and twenty experiments the ligature

was discovered in one hundred and one cases, in nineteen (a sixth) it disappeared; in some of them it may have escaped observation, but as in most of those discovered the silk had undergone a gradual change, and great care was taken in the examination, the possibility of the absorption of silk cannot be denied.

[With regard to the effects of the ligature, suppuration more frequently occurs in man than in animals. The ligatures generally escape either from the original wound, or from a secondary opening; but, where both ends of the ligature have been cut, and union has taken place by the first intention, they have been known never to come away.

On the effect of the ligature Dr. Porta remarks:]

The circular ligature applied upon an artery determines the following mechanical alterations:—Division of the proper coats, strangulation of the cellular coat, and their approximation internally at each side of the ligature with the formation of a clot. In this condition the artery, in consequence of the operation, is subject to two kinds of inflammation, the adhesive and the suppurative. The experiments just related demonstrate the first kind, or obliteration by adhesion.

The process of coalition of the tied artery has four periods:—The first, external arteritis and organization of the *oliva cellulare;* (this implies a quantity of coagulable lymph exuded, covering the ligature, and taking the shape of an olive); the second, closure of the vessel; the third, isolation of the closed extremities, and detachment of the ligature from the intermediate cord; the fourth, assimilation of all these parts.....

The rapidity of the organization of lymph is extraordinary, beyond belief. At the close of the second to the third day the *oliva* is changed into a gelatinous tissue; and generally in less than a week the new cellular sheath is perfectly formed, and presents a most beautiful and beneficial provision of nature for the obliteration of the artery, and protection against the blood which threatens its future destruction.

The *trombo*, or internal coagulum, is among the first phenomena of the ligature of an artery, and arises, as it is known, from the stoppage of the blood between the ligature and the first lateral vessels. This purely physical phenomenon is general in tied arteries, but not so constant as to be observed in all cases. Of one hundred and forty experiments with the circular ligature the clot was not formed in twenty-nine, sometimes on neither side, and more frequently only on the side next the heart, or *vice versâ*, and this without neighbouring lateral vessels: several times the clot has not formed, and the artery has remained permanently empty, notwithstanding an interval of some *millimeters* from these vessels. When the clot forms it may take place in a few hours, or in the first day: or the blood may not be completely coagulated on the third or fourth day. The larger a vessel is, the nearer the heart, subordinate to the action of this organ, and rich in lateral branches, the

longer is the clot in forming; it is weaker, or is altogether wanting. It is also erroneous to suppose that the clot is always formed in proportion to the capacity of the tied trunk, and to the distance of the first lateral branches; not unfrequently the clot is excessive, and passes beyond small and large lateral emissaries one or two *millimeters* in diameter; while in other cases it remains short, or slender and thread-like, and only fills a part of the channel. When largest, it scarcely forms a plug, or completely fills the closed end of the artery, exactly uniting its walls.....Once formed, the clot remains a long time unabsorbed, prolongs the proeess of assimilation, and it appears that it sometimes becomes permanent, traces being discovered several years after an operation; but when the artery goes through its last changes, the coagulum becomes white, hard, firm, almost calcareous, attenuated, forms part of the ligamentous walls of the vessel, and then entirely disappears.

[Dr. Porta does not consider, as Travers and Jones did, that the division of all the coats was necessary for the suceess of the operation. The obliteration of the vessel then is, either by coalition and simultaneous assimilation of all the three coats at the spot tied, or, by a slow and insensible contraction, gradually converting the arterial tube into an impervious cord. But, it is to be observed, that most frequently the arterial tube is divided by inflammation, if it is not done so previously by the mechanical action of the ligature.

The *Torsion of arteries* has been long practised; it was known to Galen and the Arabians. Dr. P. uses a small pair of dissecting foreeps, with their internal surfaces scored and exaetly joining their whole length. The reviewer observes:]

The method is only applicable to wounded or divided arteries; and either simple torsion, or torsion after isolation of the vessel, may be employed. Simple torsion is adapted to small arteries of the fourth and fifth order; they are seized with small forceps, the instrument elosed and turned in the fingers, three, four, or six times, always in the same direction, and then the vessel is abandoned. In this way six, eight, or ten arteries on the surface of a large wound may be stopped in a very few moments. It may be neeessary to repeat the torsion two or three times. The author frequently adopts this plan after amputations upon the radial, ulnar, tibial and intercostal arteries. Previous isolation, and from seven to ten turns of the forceps, are necessary for the larger arteries. The errors to avoid in the operation are the seizing one wall of the vessel only, or not taking a sufficiently firm hold, seizing part of the surrounding textures with the artery, and twisting too little, so that the proper coats are not ruptured, or too much so that the eellular coat is also broken.

The author made sixty experiments on animals, and many observations on man, to determine the anatomieal effects of torsion, and the subsequent alterations in the artery. They are closely analogous to those produced by liguture, viz., eircular laeeration, and

sometimes introflexion of the proper coats, strangulation of the cellular coat, and an internal clot, as mechanical effects; and adhesion or suppurative inflammation, as vital.

Several interesting cases, taken from the author's clinical practice, are given to illustrate the practical value of this method in the human subject. In the first, it was successfully employed in the brachial after amputation. No hemorrhage ensued, but the man died in three days from pneumonia; vessel closed by clot and adhesion. Same results in the second case, in a man who died four days after torsion of the tibial; and in the third, who died nine days after torsion of the brachial. In the fourth case, torsion was applied to the femoral after amputation of the thigh; the patient died of pulmonary abscess seventeen days afterwards; no hemorrhage occurred, and the artery was found perfectly closed. The same result occurred in a case in which torsion was applied to the popliteal after amputation; the patient died in ten days also, from pulmonary abscess; and the popliteal was also closed in the sixth case, the patient dying of apoplexy fourteen days after the operation. In the seventh case torsion was applied to the femoral after amputation; the patient died in twenty-one days of phthisis, and the artery was found exactly in the same condition as if a ligature had been applied. The eighth and ninth cases are instances of the successful application of torsion to the arteries of the leg and forearm after amputation. In the tenth case torsion was applied to the femoral; but as bleeding did not cease, a ligature was applied. A ligature was also necessary in the following case, in which torsion was used and repeated upon the femoral unsuccessfully. In the twelfth case the leg of a boy was amputated below the knee, the popliteal was divided above its bifurcation, and twisted six times upon itself. When the compression was removed the artery was seen to pulsate violently, turn twice round, and throw a jet of blood from its centre. It was again twisted three times, and the bleeding ceased. The wound cicatrized without any other accident. The other cases are three of successful application and termination of the femoral, and two to the popliteal after amputations. A case is also given in which a large varicocele had produced neuralgia and atrophy of the testis, and a cluster of the veins was removed of the length of two centimeters. Hæmorrhage to a large amount followed from the mouths of five or six large veins in the cord. Each of them was seized and twisted five or six times, and a common bandage applied. No hæmorrhage followed, and the cure was complete in a month."

The concluding paragraphs of this section, [continues the Reviewer,] are important, and we accordingly extract them.

"Since I introduced torsion into this school, I have almost exclusively practised it for the obliteration of wounded arteries. From the beginning I kept an exact register to the number of four hundred; then I neglected to record the daily cases in hospital and

private practice, in which torsion was applied, except in cases of amputation. It was applied to the occipitals, temporals, maxillary, superior thyroids, some branches of the subclavian, the thoracic, external pudic, spermatic, &c., and to the digitals, so that there is no artery of the fourth or fifth order upon the surface of the human body that has not been repeatedly twisted, after accidental wounds or cutting operations, and the result of so much practice during nine years has been fortunate beyond every expectation. I well remember in some cases to have been obliged to repeat the twisting two or three times; but I do not remember that the ligature was ever necessary on account of torsion having failed. Thus I have ceased to employ the ligature for wounded arteries of moderate size, and now employ torsion only; as to the advantages of simplicity and celerity it unites others, as it may be done without assistance, and does not leave foreign bodies in the wound.

With regard to the large arteries of the extremities, I have already applied torsion in sixty-five cases after amputations and disarticulations, principally performed in the Clinique, and some in private practice. Although the operation in these cases has not succeeded so fully and securely as in the preceding, yet in the majority it has answered. For the arteries of the fore-arm and leg, radial, ulnar, tibial, interosseal,—torsion, either simple or after separation of the end of the artery, has constantly succeeded, except in two cases; in one of which the anterior tibial, and in the other, posterior tibial, gave way, and the ligature was required. On the brachial it has always succeeded; and of twenty-three operations on the femoral and popliteal it has failed in four cases, two already mentioned, the twisted portion having given way, and ligature being necessary. I know that with some surgeons of my acquaintance laceration and hæmorrhage have been more frequent, but that may depend upon error in method or management. Fricke has enjoyed very good fortune, having only one case of hæmorrhage in thirteen torsions of the brachial, femoral, popliteal, and tibial arteries. He, however, has no bounds to his enthusiasm, and prefers the new operation in all cases, and twists with success even ossified arteries, which are not susceptible of torsion. On the other hand, the cases of Delpech and Textor are inconclusive, and of no more weight against this operation than the first unfortunate trials of the Hunterian operation in France by Desault and Deschamps."

The author goes on to argue that ill success is more frequently to be attributed to incapacity in the operator than to the condition of the vessel. If not twisted enough, the current of blood will reopen it; if too much, the coats give way. He continues:

" The results of practical surgery correspond with, and are even more favourable than the results of zootomy. In my series of experiments upon the carotids, subclavians, and femorals of dogs, sheep, goats, and horses, torsion in general succeeded; but in

eleven cases out of sixty secondary hæmorrhage occurred, requiring either a repetition of the torsion, or the ligature, and destroyed more than one animal. Experiments on brutes, then, do not give a secure criterion to argue the same results in man; because here torsion of the mouths of vessels upon the surface of the wound is a ready and simple proceeding, much more likely to be successful than torsion after exposing, isolating, and dividing the large arteries in animals."

The conclusions are, that in wounds of arteries only, can torsion take the place of the ligature; and as it is perfectly safe and secure when practised on the smaller arteries, it ought to be performed when those arteries are divided. The question with regard to the larger arteries is not yet settled; but it would appear that although torsion answers in the majority of cases, still the ligature affords greater security against secondary hæmorrhage.

British and Foreign Medical Review, July, 1846, *p.* 84.

101.—*On the New Method of Curing certain Aneurisms by means of Galvano-puncture.*—By M. PETREQUIN, of the Hotel Dieu, Lyons.—[M. P. thinks it necessary to abate the force of the circulation in the affected vessels, or the clot formed is liable to be carried away by the current of blood passing through the tumor, particularly if the artery supplying it be beyond a certain magnitude. In the sac the blood should be as far as possible stagnant and motionless, and the patient recumbent or seated at perfect rest.]

To coagulate the blood in an aneurism, it is requisite, not only that the galvanic current should reach the surface of the tumor, and that it should be conveyed to a spot within it, but it is also indispensable that it should be directly transmitted through the blood itself by two opposing points. For this effect I employ steel needles, from seven to eight centimetres long (abour three inches), fine and sharp, which may penetrate easily into the sac through the soft parts, There is here a double difficulty to be overcome; in reaching the seat of the disease they burn and cauterise the skin, irritate the nerves, and cause unavailing suffering, ecchymosis, and unfavourable inflammatory action. Again, they cause trouble by the loss of electricity, which may result in a failure of the operation. It occurred to me, therefore, to isolate the needles in an extent corresponding to the thickness of the soft parts to be traversed, taking care to leave the heads and points free. I succeeded in this object by means of a coating of gum-lac, and better still with cutler's varnish. It is easy to show that the isolation is thus rendered complete; for the energetic action which takes place when the poles of the galvanic apparatus are applied to the head, or to any free part of the needles, immediately ceases whenever the poles are connected with any part of the needles covered with the isolating coating, and recommences as soon as the wires and needles communicate without its intervention—a convincing proof that the

method is good. We may also use an enamel, or a china or stone-ware glazing. Next of the mode of placing the needles. In my experiments on the blood, the occurrence of coagulation was found to be most ready when the extremities of the needles were crossed; this, therefore, is the arrangement to be adopted; and when the aneurismal sac is of considerable size, we should multiply the points of coagulation, so that the nuclei formed at different points may finally pass into one common clot.

Thus I obtain the rule from experience, that we should insert the needles at opposite points for their better correspondence; that we should give them a direction obliquely or perpendicularly opposed to the current of the blood to interrupt it; that we should cross them, to render their effect more energetic, and increase their number in larger aneurisms, to obtain at once a good number of clots, to afford as it were a frame-work for the general coagulum; lastly, that it is advantageous to change several times the direction of the currents, in order that the galvanic influence may act in every direction, and thus produce a multitude of filaments stretched out to form the basis of a thread of coagulum amidst the mass of the contained blood."

The first case in which M. Petrequin succeeded, was an aneurism of the temporal artery, the effect of an injury sustained by a fall from a height. The application of the galvanic current, according to the rules above stated, was kept up for ten or twelve minutes, and at the end of that time the pulsating tumor had become changed to a solid mass. Moistened compresses were applied and retained with some turns of a bandage, and the hard knot quickly disappeared.

His second case was an aneurism at the bend of the arm, the effect of venesection. In this case, some amount of coagulation was produced, but owing to the cowardice and unmanageableness of the patient, the attempt was finally abandoned.

In studying the phenomena of coagulation by a galvanic current, M. Petrequin recommends milk to be employed rather than blood, as affording greater facilities for the exact observation of the circumstances which favour or retard the effect; and the result of his observations, on the best kind of galvanic apparatus for the purpose, is, that a columnar pile, composed of separate small pieces, the number of which can be augmented at pleasure, with bits of cloth interposed, moistened with solution of muriate of ammonia, answers best. The importance of attention to all the particulars that can be collected from the cases in which success has been obtained, will be obvious to all those who have in any degree engaged in galvanic experiments.

M. Petrequin next refers to the brilliant success obtained by Ciniselli, of Cremona, in a popliteal aneurism, by following the rules laid down by him.

Our author's next case is also an aneurism of the bend of the

arm, following venesection. The chief particulars of which are as follow:—

"The patient was an assistant in pharmacy, aged 30, affected with hypertrophy of the heart, whose brachial artery was wounded in venesection, whence a primitive false aneurism resulted. Some months afterwards he applied to M. Petrequin. The aneurismal tumor was then larger than a hen's egg. It was the seat of active pulsations synchronous with the stroke of the heart. By compression of the humeral artery, the size of the tumor was diminished, and the pulsations became less evident. M. Petrequin, in the first place, adopted some treatment directed to the mitigation of the symptoms resulting from the disease of the heart.

In three weeks the galvano-puncture was resorted to. Four needles about three inches long, were inserted at four opposite points of the tumor, so that their extremities crossed within. The galvanic apparatus used was a pile composed of sixty plates about three inches square, the interposed pieces of cloth being moistened with a solution of sal-ammoniac. The brachial artery was compressed, so that the pulsations in the tumor ceased. Two of the needles were then brought into communication with the poles of the apparatus, by means of brass wires wrapped round with silk at the points where they were handled. The galvanic current was very intense, and gave brilliant sparks at intervals. The shocks were violent, the patient being held by the assistants. The tumor at first diminished in size; then it seemed to become tense and red, without any increase of density. The patient complained of a burning heat at the points where the needles were inserted, and around each there was a slight cauterization. In ten minutes the density of the tumor began to increase; there were evidently nuclei of coagulation already formed. The current was still kept up, alternated through each pair of needles. In fifteen minutes the tumor felt hard, and no pulsation was discoverable even when the artery ceased to be compressed. For five minutes more the current was kept up, and then, the needles being removed, compression was applied to the artery, and a bladder filled with ice placed on the tumor. For the first few days the tumor progressively diminished, without any unpleasant occurrence—then inflammation of the aneurismal sac arose, accompanied with dull pains. The punctures made by the needles showed black sphacelated points, rendering a fetid pus, and small blackish masses, the debris of the coagulated blood in a semi-organised state. Thus, the sac became inflamed and suppurated, emptying itself by the apertures made by the needles. The suppuration lasted a few days, and the exit of the pus was favoured by a slight compression. Twelve days after the galvano-puncture, it was ascertained that the tumor had completely disappeared—that there was no longer any trace of the aneurism—and that the circulation in the radial and ulnar arteries was restored. On examination, it was discovered that the brachial artery was very superficial, and that a

seeond brachial artery ran deeper and posterior to that whieh was wounded.

Our author ascribes the inflammatory symptoms whieh arose in this case, to the want of an isolating coating on the needles at the time of the operation.

M. Petrequin's next case is one of popliteal aneurism, in which the eure was effected without any unpleasant accompaniment. The needles were applied exaetly as in the last case, with the exception that they were covered with an isolating coating in the middle part. The galvanic eurrent was kept up for sixteen minutes, at the end of whieh time the tumor had become hard; the pulsation had ceased, and no arterial sound could be heard; the skin was neither red nor tense, except that there was a slight rose-coloured areola, of small extent, around the needles. The patient made no eomplaint during the operation. The tumor progressively declined in size, though at the time of his dismissal, nearly a month after the operation, it was still of the size of a small egg; before the operation, it was the size of the fist.

The next case is also one of popliteal aneurism, whieh M. Petrequin cites from the Milan Medical Gazette, as treated by Favale, of Naples. The case was complete; the skin, however, inflamed and suppurated. It is not stated whether or not the middle part of the needles had received the isolating coating.

The last case contained in M. Petrequin's memoir, is one of aneurism at the bend of the arm, the effect of venesection. In this case the plan of proceeding was the same, and the success complete. The report extends only to the ninth day after the operation; but up to that time nothing untoward had occurred.

M. Petrequin suggests the employment of the galvano-puncture in some other diseases besides aneurism; for example, in varix, erectile tumors, sanguineous tumors, &c.

Monthly Journal of Medical Science, Nov. 1846, *p.* 374.

102.—*Case of Carotid Aneurism, in which Galvanism was applied to the Blood in the Sac, by Means of Acupuncture.*—By J. Hamilton, Esq., M.R.I.A., of the Richmond Hospital.

[The relation of this mode of operating may prove of service to those who may desire to try its effects.

Obstinate vomiting existed from the pressure of the aneurism, upon the par vagum, and the case was one cut off entirely from the usual resources of the art of surgery, by extensive constitutional complications:]

May 15th. In the presenee of my colleagues, Drs. Hutton, Macdonnell, and Macdowell. and Mr. Stapleton, of Jervis-street Hospital, I proeeeded to apply the galvanism to the tumor. The state of the aneurism previous to the operation was as follows:—It was about the size of a hen's egg, but rather flat, of somewhat irre-

gular shape, with a round, smooth projection on thein side, where the walls of the sac appeared thinnest. The centre of the tumor was on a level with the cricoid cartilage, the sterno-mastoid muscle was stretched over it; the pulsation was strong, but no *bruit de soufflet* was audible.

I passed a thin gold needle into the outside of the sac, till it had penetrated to about an inch; the same was then done on the inside, the thin, projecting part of the aneurism being avoided: the needles could be made to touch in the centre. I used needles of gold, as better coagulators of blood than those of steel; by the advice of Mr. Fagan, the electrician to the hospital, who was kind enough to regulate the galvanic battery for me, they were isolated everywhere, except at the point, by a varnish of shell-lac. The battery used was one of Smee's, consisting of twelve zinc and silver plates. The action was given very gradually, by, at first, only immersing the plates to two or three inches. When the whole force of the battery was used, it only caused moderate pain, and produced slight contraction of the muscles: he compared the pain to the prick of a leech. At the end of fifteen minutes the coagulation of the blood was not such as to cause any remarkable change in the tumor, but it appeared to beat with less force at the outside. After this the pulsation became evidently less, the tumor firmer and larger, and he began to complain of uneasy, weighty sensations, and very severe pain, which he compared to his throat being held fast by the teeth of a dog. He said he suffered much from pain in the left side of the forehead, with lightness and other unpleasant feelings, The sensations in the tumor were very distressing, and those in the head, from their violence, assumed rather an alarming character; but the most serious symptom was the great increase of the swelling, as coagulation took place, chiefly in a direction upwards and downwards, in the course of the sterno-mastoid muscle: this seemed the chief cause of the pain and the tight feel in the throat.

At the end of twenty-five minutes complete coagulation had taken place in the aneurism, which felt solid, and pulsation was imperceptible; for these reasons the galvanism was discontinued. The discontinuance might have been demanded also for another reason, that round the positive needle, on the outside, the parts in immediate contact were observed to vesicate, and then to turn quite black for the size of a spangle, the vitality being destroyed by the galvanic action: when this needle was withdrawn there was a slight flow of blood, but none from the puncture of the negative needle.

So far, therefore, as the solidifying of the blood in the aneurism, the operation had succeeded, but not without considerable grounds of uneasiness. The unpleasant feel in the head continued, with the pain over the left eye-brow; the pupil was observed to be contracted, and there was *loss of sight in the left eye.* He was restless, and tossed about, complaining much of the tightness of his throat; he had twitches in the lower extremities, and complained of being

chilly, and the pulse fell from 74 to 60. With respect to the tumor itself, the sudden increase was sufficiently alarming, as it was three or four times larger at the termination of the application of the galvanism. The increase, as observed before, took place chiefly upwards and downwards in the course of the muscle; it reached from about one inch above the clavicle to an inch and a half below the ear. The tumor was also more prominent.

[The patient, however, died, apparently from exhaustion, produced by the continued vomiting, June 8th, three weeks after the first application of galvanism.]

Post-mortem.—A section of the aneurism showed the contents to be solid, the centre occupied by clotted blood, of the colour and consistence of black currant jelly; from a quarter to half an inch from the margin the layers were of a pale red colour, and had a fibrous arrangement, exactly resembling muscle; when they were removed the lining membrane was found smooth but uneven.

As far as coagulating the blood in the sac, the application of the galvanism in this case was successful, complete coagulation having been effected by it. From the proximity of the carotid artery to the heart, and the direct course of its trunk (both favouring the rapid current of the blood), as also from the very free anastomosis with the numerous branches of the corresponding artery, an aneurism in this situation is one least likely to preserve the coagulum formed by the galvanism. In the present instance, likewise, a successful result may have been prevented by the total impossibility of using sufficient pressure to obstruct the current, and prevent its washing away the newly-made clot. To be completely successful, repetition of the operation would have been required; my reasons for not deeming this advisable have been already stated. What I have observed, however, convinces me that in more suitable cases this mode of treating aneurisms will yet be found most valuable. The sudden and rather alarming increase of the tumor, which occurred during the application of the galvanism, should it be constantly observed, may fairly be brought forward against its use in aneurisms situated, as this one was, in the neighbourhood of important organs, which would be very intolerant of sudden pressure, although they may bear or accommodate themselves (as we know they do) to the gradual pressure of tumors.

It is not easy to account satisfactorily for this rapid enlargement; the perfect integrity of the sac shows it was not from extravasation of blood by rupture; moreover, no traces of blood could be discovered. We know that during the galvanic action a quantity of hydrogen is evolved from the negative pole; it would, however, have been scarcely equal to the actual amount of the increase; the sensation, also, was of something more solid than if the contents were gaseous fluid. It now appears to me more likely to have been caused by the galvanic influence extending beyond the sac, and coagulating the fluids in the cellular tissue around it, the coagulated

matter having been afterwards absorbed. The size of the aneurism at the time of death was certainly not larger than it would have been in the usual progress of the disease, and if the galvanism had never been applied.

M. Petrequin insists on the necessity of the needles crossing, to produce a proper coagulum. The needles, in this case, though they could be made to touch, certainly did not cross, and yet coagulation was complete. But I have further reason for believing this is not necessary: I thought that, in performing the operation for the future, it would be as well to avoid, if possible, the entrance of the hydrogen gas evolved from the negative pole directly into the circulation. I therefore suggested to Mr. Fagan to make the experiment of putting an albuminous fluid into a small bladder, and to insert the positive needle into the fluid; but merely to apply the negative wire to the outside of the bladder. He accordingly filled a small portion of sheep's intestine with one part of white of egg and two parts water, quite full, and without any air. He inserted the positive needle its whole length through the gut into the fluid, and applied the negative wire merely to the outside of the sac, and succeeded in producing a large tea-spoonful of a mucous-looking coagulum, without a bubble of hydrogen in the fluid inside, but many adhering to the outside, and to a silver plate on which the sac was placed. We have no grounds to say the entrance of hydrogen into the blood is injurious; but the fact that coagulation can be produced without its necessarily being present is interesting. The condition in which the par vagum was discovered, may, perhaps, explain the incessant vomiting. It is scarcely possible to suppose that a nerve so closely connected with the functions of the stomach could be so much deranged in structure without considerable gastric disturbance.

Dublin Quarterly Journal of Medical Science, Nov. 1846, *p.* 539.

103.—*On the Efficacy of Acupuncture in causing Obliteration of the Arteries.*—By Dr. Giacinto Namais, of Venice.

Dr. Namais, wishing to try if the application of needles alone was sufficient to produce a coagulum, without the aid of an electric current, the primary carotid of an old horse was transfixed with a long needle, such as is generally used in acupuncture, and which was left in its situation for twenty-four hours. The artery was not laid bare, but was transfixed in the spot where the pulsations were most distinctly felt. The animal was killed five or six days afterwards, by means of several ounces of cherry-laurel water being injected below the skin. It was found that the needle had passed from side to side of the carotid, and that in this situation there was attached to the artery, a fibrinous coagulum of more than two inches in length, and free from any other point of union to its cavity. This coagulum, resembling a polypus, filled with the interior of the

carotid, which would have been changed into a solid cord if the animal had lived longer.

The needle which traversed the interior of the artery, Dr. Namais thinks, must have caused a slow motion of the blood at that part, and collected around it a deposit of its fibrine. This fibrine becoming firmer, increased, as may be supposed, the cause which induced the separation of this substance from the blood, by means of which the coagulum obtained such a size as to fill for a space the cavity of the artery. Its union with the vessel commenced where the points of the wounded membrane were necessarily the seat of inflammation, and of some effusion of plastic lymph. Dr. Namais states that other experimenters had proposed the same plan, but, with what result, he is not aware.

That which he undertook in a large vessel, such as the carotid of a horse, appears to him to be of such a conclusive and well merited value, as to warrant a regular series of experiments being made of a like nature. For, if the introduction of needles alone be sufficient to cause the obliteration of an artery without the aid of the electric current, the cure of aneurisms would be attended with less trouble and danger than with the electro-puncture.—*Gazzetta Medica di Milano*, Settenbre 5, 1846.

Monthly Journal of Medical Science, Nov., 1846, *p.* 378.

104.—*Case of Ligature of the Left Subclavian Artery within the Scalenus Muscle, for Aneurism.*—By J. Kearney Rogers, M.D.

Although this case proved unsuccessful, yet the result convinced Dr. Rogers that the operation is practicable and proper. On dissection, it was found that the ligature had passed through the coats of the artery; that the stump of the subclavian was filled with a firm coagulum, which was adherent to its inner coat for three-quarters of an inch. The hæmorrhage proceeded from the distal end of the artery, and, Dr. Rogers is of opinion, came from the vertebral artery, which he thinks should be secured before the operation. He thinks it possible, however, that the thyroid axis may have furnished a part of the blood. The operation was performed in the following manner:

The patient was laid on a low bed, with his head and shoulders raised, and his face turned to the right side. The light from the dome shone directly on the part to be operated on.

An incision was made three inches and a half in length on the inner edge of the mastoid, terminating at the sternum, and dividing the integuments and platysma myoides. This was met by another extending to the sternal extremity of the clavicle, about two and a half inches. This last incision divided a plexus of varicose veins passing in the integuments, covering the clavicle to the subclavian. Free bleeding taking place from their cut and patulous extremities, it became necessary to check it by ligature.

The flap of integuments and platysma myoides was now dissected

up, and the lower end of the mastoid laid bare; a director was passed under this muscle, and the sternal portion and half of the clavicular divided by the bistoury. This muscle was now turned up; and the sterno-hyoideus muscle, the omo-hyoideus, and the deep-seated jugular vein were seen covered by the fascia.

On turning up the mastoid, a portion of the aneurismal sac strongly pulsating, was brought inro view, overlapping about half the width of the scalenus, forming now the outer part of the track through which I was to pass, showing fearfully one of the dangers of the operation, which, from my previous examinations of the part, I had of course anticipated.

The fascia being divided by the handle of the scalpel and the fingers, I passed in contact with the deep jugular on its outer side to the interior edge of the scalenus anticus, intending, for the purpose of avoiding as much as possible all danger to the thoracic duct, to reach this muscle fully half an inch above the rib, rather than at its insertion. I now felt distinctly the phrenic nerve running down on the anterior surface of the scalenus, and was confident that I should be able to avoid any injury to it. Having attained the inner edge of the scalenus, by pressing downwards with the finger, I soon discovered the rib, and, after some little search, easily found the subclavian artery. By pressing it against the rib, all pulsation ceased in the tumor, and, by removing the finger, pulsation returned.

I now felt that great care was necessary to detach the artery, and avoid danger to the pleura and thoracic duct. In accomplishing this part of the operation, I at first tried Sir Philip Crampton's instrument, but, ascertaining that I could better carry the ligature around the artery and bring up its end, by the invention of Drs. Parrish, Hewson, and Hartsborne, of Philadelphia, (long since given to the profession by them, and lately claimed by Mr. L'Estrange, of Dublin), I accordingly adopted that instrument.

This part of the operation, as will be imagined, was not very readily accomplished. The great depth of the vessel (nearly the length of my forefinger), and narrowness of the wound, prevented a very easy management of instruments. The point was introduced under the artery, and soon directed upwards, so as to avoid injury to the pleura. The needle carrying the ligature was now detached from the shaft of the instrument, and drawn upwards, so as to include the artery. I readily tied the ligature, and tightened it with the forefinger in the bottom of the wound. All pulsation immediately ceased in the aneurism and the arteries of the extremity.

The patient complained of no pain or unusual feeling in the head, as might have been expected from so suddenly changing the current of so large a quantity of blood.

United States Western Lancet, May, 1846, *p.* 54.

105.—*On the Structure and Treatment of Nævi.*—By C. Hawkins' Esq..—[Mr. Hawkins makes the following observations on this subject:]

First, you may have observed what are called nævi flammei; marks of various extent of the surface only of the skin, in which it is obvious that numerous superficial blood vessels, chiefly capillaries, are enlarged and tortuous, and anastomose freely with each other; the disease being generally stationary, even when covering the greater part of a limb, or nearly the entire surface of the body; varying in colour, however, so as to be bright red or purple, according to the condition of the blood, or the state of the circulation. Sometimes you see a single point only of arterial blood somewhat prominent, with vessels ramifying unaltered in structure around it, constituting nævi aranei; at other times, as in our patient, points of varicose veins only come to the surface, and sometimes in great number if there is also anything below the skin of the same kind.

Secondly, and more commonly, you meet with cutaneous or subcutaneous nævi, or a mixture of both, constituting distinct tumors of greater or less thickness, varying in colour as arterial or venous blood predominates, if the skin is affected, and generally purple or dark, when situated chiefly below the skin as in this patient. These nævi obviously consist in general of tortuous and varicose and dilated capillaries, embedded in a rather tough cellular tissue, and you can empty them, or allow them to fill at pleasure, by varying the pressure upon them; the coats of the vessels being perceptibly diseased, so that hæmorrhage from them is dangerous, while the vessels going to them and coming from them are in their natural state. Sometimes the veins coming from such a congeries of diseased capillary vessels are also varicose and dilated, so that you can feel them below the skin, just as in a case of varicocele; at other times one or more of the arteries going to them are diseased also, enlarged and softened to a little distance, pulsating visibly or sensibly, or communicating also a pulsation to the whole tumor; such an addition rendering them what John Bell has denominated aneurism by anastomosis.

But, in the third place, this surgeon has asserted that tumors of the blood-vessels of this kind have within them numerous cells, with which the blood-vessels have free communication, as in the natural structure of the gills of the turkey cock, or the corpus cavernosum; and this description has been followed by Wardrop and other authors; and Dupuytren, following the same idea, has given the name of erectile tissue to these new formations, from their resemblance to the natural erectile tissues of the body.

The structure of nævi, whether pulsating or not, has been, however, a disputed question. Certainly, I think, there is in general no such formation of cells, but the tumor consists solely of dilated capillary and other vessels. Even in a remarkable case, which occurred in

the London Hospital, and has been described by Mr. Curling, where large external tumors communicated with great masses of similar character in the chest and abdomen, the disease examined on this great scale consisted only of blood-vessels of various sizes in cellular tissue.

But, in some few instances, there is an appearance of irregular cavities, which are probably dilated veins, communicating with the course of the undilated veins, as they contain coagula, and which have only the appearance of cells, when cut across, in the same manner as the tortuous vessel, folded in the vesiculæ seminales, gives the form of cells to those bodies.

It is very seldom that an opportunity is afforded of examining a large-blood vessel tumor; I had the power of doing so in the case of which this cast gives a likeness, in which you see that the tumor was of several inches in diameter, and not less than two inches in thickness; it was congenital, but had much increased for some time before the patient, a boy of seven years of age, came under my care, and numerous vessels, which bled a good deal from time to time, had lately appeared in the cutis. I removed it by ligature, and in the section of the tumor on the table, and in the drawing also, you may see in addition to the usual vessels that several apparent cells exist. Now some of these cells were filled with coagulum; their structure appeared identical with the other veins, of which they constituted as it were aneurismal pouches. So that in this respect they resembled what has been described and figured by Bell and Wardrop.

There were, however, besides these, some other cysts, which contained only serous fluid, and which were to all appearance close shut sacs,—serous cysts; their size being about that of peas, one or two somewhat larger than this, and others smaller. Now all tumors may form cysts, particularly when they grow without pressure, as into a cavity; even the fibrous tumor, dense as it is, having cysts, and even dilating so as to contain fifteen pints of fluid. In cellular tissue serous cysts often form; occasionally many in close proximity, forming a half solid cystic tumor.

[The existence of cysts always complicate the diagnosis of nævi, they do occasionally form and arrive at a large size. Mr. Babington had a case, in which there was an encysted tumor, entirely surrounded by a thin layer of the structure of nævus.]

Medical Gazette, June 12, 1846, *p.* 1026.

106.—*On Subcutaneous Nævi.*—By Sir B. Brodie, Bart.

After describing the appearance of subcutaneous nævi formed by vascular tumors in the texture under the skin, and not in the skin itself, Sir B. Brodie observes:—"You may very easily cure such nævi by caustic. For this purpose I have a very narrow knife, perhaps about the eighth of an inch in width; I introduce it into the middle of the nævus, and move it in different directions, so as to

cut in pieces, as it were, its vaseular structure. I then have a probe armed by dipping the blunt end of it into nitrate of silver, melted in a platina or silver spoon. The probe thus armed is to be introduced into the puncture made by the narrow laneet, and moved about, so that wherever the lancet has divided the blood vessels, the caustic may penetrate also. It causes inflammation and sloughing, at the same time obliterating the vessels beyond the margin of the slough. When the slough is separated, there is a slight discharge of pus for a few days, and, if the tumor be of small size, you will find that it is cured; but, if it be large, the applieation must be repeated. I have used this on several occasions with great advantage, especially when the tumor has been on the face, where it was a great object not to destroy the skin. If you remove one of these tumors, either by the knife or by ligature, you must, in either case, leave a large cieatrix; but by applying the caustic in the way I have mentioned, you save the skin. I was requested to see a little child that had one of these subcutaneous nævi at the tip of the nose, giving it a very ugly appearance. By far the greater part of the alæ of the nose was involved in the tumor, and to have cut it out would have disfigured the child for life. I treated it according to the method which I have just explained. Several operations were required, but they sueceeded perfectly; the ehild is quite cured of the nævus, and I will not say that you see no mark at the end of the nose, but there is so little that, unless your attention were called to it, you would not know that anything had happened. I have destroyed an extensive subcutaneous nævus occupying a very large portion of the face, in the same manner. there being very little or no scar afterwards.—*Lectures on Pathology Surgery.*

Medical Gazette, July 31, 1846, *p.* 216.

107.—*The Tattooing of Moles on the Skin, proposed by Pauli.*

The part should be washed with soap and water, and rubbed till the blood is introduced into the most delicate branehes of the ereetile tissue; the skin is then made tight, and eovered with eolour similar to the natural colour of the skin, which is formed of white lead and earmine. Three needles, sunk into a cork pad, so that their points project, are then thrust into the skin, and their points from time to time dipped in the paint. In extensive spots, we must proceed gradually, so as not to produee too great swelling. The most difficult part is the ehoice of colour eorresponding to that of the skin.—*South's Translation of Chelius.*

Medical Gazette, July 24, 1846, *p.* 155.

108.—*On the Treatment of Varicose Veins.*—By F. C. Skey, Esq. —[When many veins of a limb are in a varicose state, as generally happens, the usual modes of treatment. whether it be by ligature, pressure, or division, will be too limited to remove the disease

entirely. Mr. Skey proposes a plan which is both entire and permanent. He observes:]

The treatment my past experience fully justifies my recommending for adoption consists in the entire obliteration of the trunks and, many of the branches of the saphena veins, both major and minor, by very small caustic issues, applied on the projecting veins, however large or numerous they may be; and, in suggesting which, I believe I can pledge myself to two conditions: first, that the function of the vein on which the issue is made is from that hour suspended; and, second, that the operation of the issue so applied is unattended with danger of any kind. The operation appears to be complete, and immediate. The current of blood is arrested; nor is the obstruction to the circulation thus caused, apparent in any symptom of congestion resulting from it.

It may be inferred from this circumstance, that the blood returned to the femoral vein through these cutaneous channels is, in reality, much smaller in quantity than the size of these vessels would lead us to infer. It will, however, be recollected, that in proportion to the enlarged size of the veins, and their contorted form, is the quantity of coagulum contained within them, by which the circulation is necessarily obstructed, and they present the reality of venous aneurisms; *i. e.*, of dilated veins, partially filled with coagulated blood. The proportion of coagulum doubtless varies a good deal, for we occasionally observe its almost entire absence, the veins retaining the softness on compression, due to the fluidity of their contents. However large and projecting the vein, be its contents fluid or solid, on the part most projecting, an issue may be made, so far as I have seen, without the remotest degree of danger, or any other evil consequence.

The material I employ for this purpose is the Vienna paste, a compound of quick lime and caustic potash, in the proportion of five of the former to four of the latter. These ingredients are mixed into a paste with spirits of wine; and in these proportions, which I cannot pronounce to be strictly those of the "Pate de Vienne," a caustic may be applied, which will readily destroy the surface without causing the excessive pain attending the application of the pure potash alone, nitric acid, or other similar agents. Under some some circumstances it may be desirable to diminish the proportion of the caustic. The limb should be examined in the upright position of the body; the projecting veins marked with ink to the number requisite, including all the most salient points, in the trunk and branches.

While in the horizontal posture the places thus marked should be insulated with a circle of plaster of three or four thicknesses, the diameter of which will vary with that of the swelling beneath, but it is very desirable on all accounts to make it as small as possible. I have found one quarter to one-third of an inch to suffice in the plaster, and the issue itself will not exceed the size of a fourpenny-piece, or less.

The caustic may be removed at the expiration of half an hour, and the leg dressed and rolled lightly. In the course of a week or ten days the eschars come away, and the wounds are healed by ordinary means. But, inasmuch as they are not altogether ordinary wounds, I wish to say one word on their management.

Two circumstances should be kept in view militating against their early cicatrization, and sometimes so positively, as to protract the recovery for many weeks, and form a serious objection to the treatment.

First, the existence of a sore on the leg or foot at a remote distance from the centre of the circulation, which is under all circumstances tedious and protracted in its progress; and, secondly, the disease itself infers a languor of circulation unfavourable to early healing.

In truth, the ulcers occasionally spin out their existence, especially when large, to a very inconvenient duration. I have seen examples, in which one or more of them have defied the curative means employed for three or four months; until, indeed, the patience of the subject of them has been almost exhausted.

It should be kept in mind that varicose veins owe their existence to inactivity of the action of the heart, or, at least to some cause tantamount to it; and to this inactivity or want of force, and not to anything specific in the nature of the ulcers, is their duration to be referred.

Hence the necessity of restricting the issues to the smallest possible size, compatible with the destruction of the vein; and of such any number may be made. The ordinary number I have employed has been six or seven. I have made twelve on one leg at one time.

The modes of obviating the above evil, and of establishing an active health to the circulation of the limb, are such as are ordinarily employed for this purpose, and by the judicious application of which, the period of healing may be kept nearly within the limits that control them in other persons.

I often commence the treatment with a course of bark or other tonic agent before the operation, employed for two or three weeks, especially in persons of a feeble constitution. When the eschars come away, the ulcers should not be neglected, but carefully dressed with some form of stimulant. I commonly use the flue of dry lint, or black wash. The removal of the sloughs will be hastened by the application of a roller, applied around the limb from the period of a few days after the operation. I have occasionally made these issues with pure caustic potash, and also with potash once diluted, but the operation is rendered more painful, without any corresponding advantage; and without wishing to attach any marvellous virtues to that form which bears the the title of Vienna paste, I think it preferable to any other form I have employed or seen employed.

The slough is complete, and the pain considerable, but not ex-

cessive. If too large a quantity of spirit be used, and the paste be too soft, it will of course diffuse its influence beyond the circle of the plaster.

Medical Gazette, Aug. 7, 1846, *p.* 236.

109.—*Remarks on an Easy Method of Stopping Profuse Hemorrhage from the Nose, especially in Old People.*—By Dr. Oke, of the Royal South Hants Infirmary.—[It has been thought of considerable efficacy in bleeding from the nose, to hold up the arm of the same side, in order to empty the brachial vein, and thus allow of a freer current to traverse the axillary artery. The old plan of plugging the nostrils anteriorly and posteriorly is perhaps the most efficacious plan of any, but this is very disagreeable to the patient, and the materials for doing it are not always at hand.

Dr. Oke proposes a new and simple plan, which can at all times be easily and instantly adopted. He says:]

When the hæmorrhage continues to be so profuse as to peril the life of the patient, let the lesser finger be introduced up the nostril and pressed upon its base and sides till the bleeding is stopped. Having kept up the pressure for a few minutes, a small compact dossil of lint, made wet with cold water and rolled upon powdered alum (if at hand,) is to be carried up to the point which had been compressed with the finger, and held there by the same pressure; after this other little compresses of the same kind are to be successively laid on by the handle of a teaspoon, or some such means, till the roof of the nostril supplies the pressure of the finger.

Case 1. I was called in the night to a lady of advanced age and slight form, on account of a profuse bleeding from the left nostril. When I arrived I was astonished at the quantity of blood she had lost, which was not less than two quarts and of a venous colour. As the blood was still flowing profusely, I immediately introduced my little finger into the left nostril, and making pressure upon its base, stopped the blood *instantly*. The bleeding point was compressed in the manner above described, and the hæmorrhage never returned.

Case 2. A gentleman of agricultural pursuits, about 60 years of age, had from time to time consulted me for symptoms of angina pectoris. He could not walk any distance without being arrested by distressing pain across the chest and down the arms; and as it was quite clear that the symptoms were caused by an organic lesion of the heart, I was persuaded that his life would terminate suddenly in some future paroxysm. After these symptoms had continued for some years, I was hastily summoned to visit him by his medical attendant, on account of a nasal hæmorrhage which had recurred at intervals to an alarming degree. Upon my arrival the right nostril was bleeding a stream, but as his countenance was not blanched, and his pulse was full and strong, and as I was aware that he had long been affected with disease of the heart, I recommended that the bleeding, which was of a venous character, should be al-

lowed to continue for a time, as otherwise it would probably be necessary to take blood from the arm. However, thinking it right before I left him to try if the hæmorrhage could be controlled by the above simple method, I introduced my finger into the nostril, and by pressing upon its inferior surface, stopped the bleeding at *once;* and had it been deemed necessary to prevent the return of the hæmorrhage, it could have been effectually done as in the first case.

The following day he died suddenly from another attack of angina.

Provincial Medical and Surgical Journal, May 27, 1846, *p.* 239.

110.—*Ergotine as a Styptic in Wounds of Arteries.*

M. Bonjean has strongly advised the use of ergotine (ergot of rye) to arrest hæmorrhage from wounded arteries. It is stated that in a recent experiment, he divided the right carotid artery of a horse by a transverse incision, which comprised one-third of the circumference of the vessel. The hæmorrhage was speedily arrested by the application of ergotine.

M. Velpeau, in commenting upon these experiments, observes that two circumstances are invariably forgotten by experimentalists:—1. That the blood of animals is much more plastic than that of man; hence, what may prove a styptic in one case, will fail in the other. Wounds of large arteries in the horse, ox, and sheep, rarely prove fatal by hæmorrhage. This ceases spontaneously after a certain time; and this natural result gives the impression that the cessation is due to the application of the remedy; hence the number of styptics which have been successively brought before the profession, and then have fallen into desuetude. 2. In the human subject, many arterial hæmorrhages cease either spontaneously, or on the application of slight pressure, so as to render the application of a ligature unnecessary. The result is then erroneously attributed to the substance applied. Those practitioners who have used ergotine, or ergot of rye, in hæmorrhages, have obtained no conclusive results; and if in uterine hæmorrhage during labour this substance has been found useful, its mode of action is probably that of causing the uterus to contract upon itself, and not by exerting any specific influence on the blood or the arteries.—*Comptes Rendus.*

Medical Gazette, Aug. 7, 1846 *p.* 260.

111.—*Bleeding from the Foot.*—By M. Malgaigne.

We copy M. Malgaigne's account of this simple operation because we think it is far too seldom had recourse to in this country, seeing the great relief it is capable of affording in many affections of the portal system and generative organs, and the ease with which blood may frequently be so obtained, when its abstraction from a vein in the arm is either difficult or impossible.

The internal saphena vein may be opened in front of the internal malleolus, or the external saphena in front of the external malleolus; but the latter is seldom large enough to be opened when the internal is not.

The patient, seated in a chair or at the edge of his bed, first places his feet in hot water, until the veins are very apparent: then the surgeon selects the foot, wipes it, rests it on his knee, protected by a napkin, and places the ligature two fingers' breadth above the ankle, moderately tightening it, and securing it with a bow on the opposite side. He then explores the vein, puts the foot again in the hot water, prepares his lancet, re-takes the foot, and opens the vessel. Care must be taken not to prick the bone and break off the point of the lancet. If the blood flows in a jet it is caught in a basin, if it only dribbles slowly the foot should again be put in the water. We can then only judge of the quantity by the time or redness of water. When the bleeding is supposed to have been enough, the foot is taken out of the water and wiped, and a compress and figure of eight bandage applied. Care must be taken lest the water be too hot, or the foot plunged in too deeply. It is said that the weight of the column of the water tends to coagulate the blood, which stops the mouth of the opening. On this account the foot should be kept only just covered, and the wound wiped from time to time. It is well also to make the patient move his toes.

Medico-Chirurgical Review, Oct., 1846, *p.* 423.

112.—*Successful Method of Arresting the Hæmorrhage of Leech Bites.*—By A. Marshall, M.D., Belfast.

Whenever a leech bite bleeds profusely, and compression cannot be made, as over the neck, abdomen, &c., I wipe the cut quickly with a bit of lint, or fine linen, and while it is comparatively dry, seize a small portion of the integuments surrounding the bite with the finger and thumb of one hand, and between them continue to make a moderate, but not painful, pressure. If the child be restless and struggle, I loose the hold, but instantly dry and seize the cut as before. One may be compelled to repeat this process three or four times, but ultimate success is certain. At every subsequent seizure, the hæmorrhage is seen to be more languid; and in a period varying from five to fifteen minutes, is completely suppressed. I may add, that the irritation attendant on leech bites is not of more frequent occurrence after this pressure.

Dublin Quarterly Journal of Medical Science, Nov. 1846, *p.* 561.

113.—*Mode of Arresting Hæmorrhage from Leech Bites.*—By Dr. Houston.

Dr. Houston recommends the following plan for preventing excessive bleeding from leech-bites, which he has found invariably successful. Take a small pinch from the felt of a beaver hat, pile

it on the bite; or if there be several points, pile one respectively on each, and spread over the whole a piece of thin muslin, drawing it tightly, so that any blood which flows must pass directly through both; then, with a fine sponge, dry up the blood as it oozes out, and in a very short time both felt and muslin will have become dried by the coagulation of the blood in the thin fine meshes, and the hæmorrhage arrested. The muslin may then be all cut away, except the adhering points, which, in the course of a couple of days, will of themselves drop off, leaving the parts healed, and free from any such disfiguring marks as those which necessarily follow cemetery, caustics, or needles.—*Dublin Hospital Gazette*, March, 1845.

Medical Gazette, June 26, 1846, *p.* 1125.

114.—*Treatment of Hæmorrhage from Leech Bites.*—By F. L. Gervis, Esq.

[Mr. Gervis had a patient to whom it was necessary to apply leeches to the throat, for an attack of cynanche tonsillaris. One of the leeches fastened over the external jugular vein, and when it came off, blood poured forth quite in a stream.

Pressure, by means of lint, proving ineffectual, he dipped a dossil of lint into a strong solution of alum; this at once arrested the bleeding. The same application he has found instantly successful in arresting hæmorrhage after the extraction of a tooth.

He recommends another method of arresting the bleeding from a leech bite, viz., the application of tobacco.]

ALIMENTARY CANAL.

115.—SEVERE WOUNDS OF THE THROAT INFLICTED FOR THE PURPOSE OF SELF-DESTRUCTION.

By A. M. Mc'Whinnie, Esq

[Their consideration is highly important, and he arranges them thus:—]

1st. Those in which the skin, superficial muscles, and vessels, are divided, and which are the most frequent in occurrence; 2nd. those in which an opening is made either into the fauces, pharynx, larynx, trachea, or œsophagus, and which are next in point of frequency; and, 3rd. those in which blood-vessels of large calibre, or other parts, have been injured, so as to cause a sudden or speedy cessation of life, and which are comparatively rare in occurrence.

Treatment.—If the superficial parts are simply divided, and there is no mischief done to the air-passages, &c., a suture or two, aided

by the approximation of the chin to the sternum, will generally suffice. Where the wound has opened the pharynx, larynx, or trachea, our first object must be to inquire as to the extent of hæmorrhage which may have taken place, and to spare no pains, even at the risk of enlarging the wound, to secure by ligature every divided vessel. Mr. John Bell says, that "they are often retracted among the cellular tissue, and that we are saved all trouble and care, except that of making our outward suture for uniting the external wound." These observations, coming from so eminent a surgeon, must carry with them considerable authority; but I cannot subscribe to so dangerous a proceeding. With regard to sutures, they should be employed only in superficial wounds; or, if allowable in deep ones, they must be confined to those cases in which the air-passages have escaped. In extensive wounds, where the cartilages of the larynx have been injured or separated from each other, sutures are irritating and hurtful. They cannot promote what never takes place in these parts, viz., union by the first intention; and by closing the outward wound, they will act in the most deleterious manner by confining the discharge, which should have as free an outlet as possible.

The wound is to be left freely open, and narrowly watched, in the event of any recurrence of the bleeding, when reaction has been established. The patient should be in a well-ventilated room, the head gently raised with pillows, and everything is to be avoided which may produce any bodily irritation or mental excitement. An elastic tube is to be introduced through the nostril, and, if the patient does not greatly object, should be allowed to remain in the œsophagus. Although it may at first produce some inconvenience, the patient will generally become accustomed to its presence. When the tube is passed, it should be quickly carried along the floor of the right nostril, and the finger of the left hand introduced, either through the mouth or wound, to guide its extremity into the pharynx. This is very important; for I have frequently seen the surgeon well-nigh foiled in his repeated attempts to introduce the instrument, in consequence of its itching against, or passing into the aperture of, the glottis, which it will be liable to do, if not properly directed by the finger of the operator. The distress has been so great that every resistance has been offered to its employment. Much of the comfort to be derived from our treatment depends upon its use. All attempts at deglutition, and even speaking, are to be avoided, that these extremely moveable parts may be kept as tranquil as possible. Every loose portion of cartilage or other tissue should be carefully removed, on account of the irritation and inconvenience produced. I have seen it necessary to take away the epiglottis, when nearly separated from its connexions. A case came under the care of Mr. Coote, in November, 1839, where, in an injury inflicted in a suicidal attempt, the arytenoid cartilage, and upper edge of one side of the thyroid, which had been detached, came out through the wound, together with the greater part of the corres-

ponding thyro-arytenoideus-lateralis muscle. Sir Charles Bell relates an instance in which one of the arytenoid cartilages was divided, and a portion of it vibrated in the chink of the glottis; it acted as a foreign body, and produced suffocation.

The lightest and simplest dressings will be found best adapted to these cases; water-dressing, with fine linen or muslin—occasionally a light poultice placed over the latter. The wound should be constantly cleansed; and if very extensive, and in the neighbourhood of the glottis, the introduction and frequent renewal of soft portions of sponge will be found very useful in absorbing the purulent discharge which might otherwise flow into the larynx. The only nourishment allowed for some time should be fluids.

The individual who has thus attempted suicide should be carefully watched; for the melancholy and deplorable condition in which he is placed urges him to resort to every possible means to accomplish his end; and the strictest restraint, during the treatment, is sometimes absolutely necessary, to prevent the infliction of further injury. Great advantage is derived from the administration of opium and other narcotics, introduced by the œsophagus tube, or by means of enemata.

With regard to other internal remedies, these will be few and simple, in the absence of cerebral and general febrile excitement, which, if present, must be combated by suitable treatment; and the great depression, both mental and physical, often supervening upon the cessation of the inflammatory symptoms, will demand the judicious employment of stimuli. Local and general bleeding, antimony, and mercurials, must be had recourse to, in the event of inflammation of the lining membrane of the air-passages and lungs, so often productive of the most serious consequences in these cases, and the first symptoms of which we should endeavour to meet and subdue.

[The plan suggested by Mr. Liston is now generally adopted, of introducing a tube through the glottis, when there is an œdematous state of the mucous membrane; and in those cases when dyspnœa has supervened after some time, in consequence of excrescences or granulations encroaching upon the air-tubes, Sir Charles Bell's plan of performing tracheotomy must be practised.]

In general, we may augur favourably of superficial wounds of the throat. When deep, their danger diminishes in proportion as they are remote from the aperture of the glottis. Thus, wounds entering the mouth above the os hyoides, or dividing the larynx below the glottis—i. e., through the lower part of the thyroid cartilage, or between it and the cricoid, will (as also wounds of the trachea, generally) do well; but, for reasons above mentioned, we should pronounce very unfavourably of a case where the incision has extended through the thyro-hyoid membrane, through the centre or upper part of the thyroid cartilage, or in any other direction towards the rima-glottidis, by which that part is exposed

or injured. I have seen only one case of the kind do well, and that was not very severe: two fingers only could be admitted through the incised thyro-hyoid membrane towards the epiglottis, which was slightly injured. Still, howevever, a great deal of comfort may be derived from proper treatment, and the chances of a favourable termination may thereby be much augmented. These wounds, from the great surface exposed, are extremely tedious in healing—a process which must take place almost wholly by granulations; and it has been shown that the patient must not be considered safe for a considerable time after the healing of the external wound.

Lancet, Sept. 5, 1846, *p.* 267.

116.—*On Glossitis.*—By W. England, M.D., Wisbeach.—[Two cases present themselves as having occurred in the practice of Dr. England, of Wisbeach. Of the first case, the symptoms were the following:]

Left half of the tongue chiefly thickened towards the root, though the whole of the surface on the left side, as far as the median line, is elevated one-eighth of an inch higher than the right.

[It subsided in twenty-four hours upon the application of a solution of nitrate of silver, fifteen grains to an ounce of water, indeed, it appeared to act like a charm, no other treatment being adopted than aperients.

In the second case, the tongue was much swollen, and deglutition, except of liquids, much impeded; articulation also was very imperfect. The nitrate of silver was also applied in this, as in the first case, and with a complete diminution of the swelling in two days; but a small abscess terminated the glossitis.]

In the long series of the *Medical Gazette*, I find the publication of only two cases, one (vol. 1841-2) by Dr. Graves, which, very similar to the case of J. H., terminated in abscess; the swelling being punctured, a thimbleful of pus made its exit, and the patient got instantaneous relief, and left the Meath Hospital the same evening. In Dr. Graves's case the swelling, as in the two which I now record, was confined to the left half of the tongue. In the same volume of the *Gazette*, is another case of glossitis, producing suppuration, reported by Mr. Alfred Smee; and I am inclined to think with that gentleman, that the " reason to be assigned for the rarity of abscess in the tongue is, perhaps, the absence of much cellular tissue in that organ." Dr. Mason Good makes no allusion to inflammation of the tongue; and the admirable lectures of Dr. Watson, in the *Medical Gazette*, are equally silent on the subject.

Provincial Medical and Surgical Journal, Sept. 23, 1846, *p.* 453.

117.—*Treatment of Caries of the Teeth.*—By C. E. H. Orpen, M.D., Birkenhead.—[It is difficult in many cases to prevent the

progress of this important evil, chiefly because patients seek advice when the disease is so far advanced, that the tooth will not bear the necessary pressure for the safe introduction of gold or tin; and the operator must then resort to the extraction of the tooth, or the use of silver amalgam, or what is now offered for trial by Dr. Orpen, viz., the application of nitrate of silver. He gives the following directions:]

Scrape out the entire of the softened carious part of the tooth, and rub its interior with a saturated solution of nitrate of silver, or with pulverised nitrate of silver barely wet. In this way the progress of caries may be effectually stopped; and a tooth thus treated will often remain for years, though without any stuffing, and exposed to all the variations of food and drink, without giving any trouble or pain, and without any reappearance of the caries. I know this to be a fact in many instances, though I am not a dentist; and I would beg leave also to suggest to all dentists, that in stuffing decayed teeth, they will always find it beneficial, after scraping away the softened carious parts, to rub the interior of the cavity, in a similar way, with pulverised or fluid nitrate of silver, before beginning to stuff them, which will similarly prevent the recommencement of caries.

Medical Gazette, Sept. 25, 1846, *p.* 554.

118.—*New Suggestion for the Application of the Taxis in Inguinal Hernia.*—By. M. Grynfeltt.

The method now proposed by this surgeon for effecting the reduction of a hernia, is similar in its mode of operation to others which have been already proposed, such as the application of cupping glasses over the abdominal parietes. Its object is, by applying mechanical force to the contained viscera, to drag the protruded intestine back into the abdomen, instead of adopting the usual proceeding of endeavouring to push it back through the opening at which it has made its exit.

The following is the description given by M. Grynfeltt of the manner in which he has applied his taxis, in the case of a female, who had suffered from a strangulated inguinal hernia for five days:—

"We flexed the thighs as much as possible on the pelvis, leaving room, however, to grasp the tumor easily. The loins, thorax, and head were also bent forwards to the full extent, so that the whole body was, as it were coiled up. The patient being placed in this position, it is easily imagined that complete relaxation of the abdominal parietes was produced. Next, with the fingers of the left hand, we seized the hernial tumor at its base, and compressed it slightly. At the same time, with the right hand, we brought the coverings of the abdomen as much towards the external inguinal aperture as was practicable, when, by a simultaneous movement with the fingers applied over the parts, we produced a traction on

the hernial contents sufficient to bring them back into the interior of the abdominal cavity. At the first attempt we had the satisfaction of feeling under our left hand, which supported the hernial tumor, the movement of fecal matter, and of the gas contained in the protruded portion of the intestines; when, combining compression of the hernia with the traction of the intestines in the abdomen, we succeeded in the reduction in a few seconds.

Our operative proceeding then, consists in drawing back the protruded portion of intestine into the abdominal cavity, instead of trying to push it back."— *Gazette Médicale*, Mai 30, No. 22.

We have no doubt that any cause which can produce traction in that portion of the intestine which is continuous with the contents of the hernial sac, is more likely to effect reduction of the protruded bowel, than direct pressure applied over the tumor. The difficulty, however, is to act in any way on the part of the intestine immediately in the neighbourhood of the protruded portion. Medicines administered to increase the peristaltic motion of the bowels cannot act; for we know that the muscular coat, for a considerable way above and below the constricted portion, is paralysed. A plan, which was frequently pursued in olden times with success, was placing the patient with his head downwards, and shaking him up and down, so as to allow the abdominal viscera to gravitate towards the thorax, when a sudden reduction of the tumor was often obtained after the failure of the usual means. The object desired by M. Grynfeltt, we have no doubt, is more effectually obtained in this way, than by his mode of manipulating, the description of which appears to us rather obscure. The proceeding, however, appears worthy of trial, particularly, as no undue force is applied to the tumor, the disadvantage and danger of which cannot be too much insisted on.

Monthly Journal of Medical Science, July, 1846, *p.* 68.

119.—*On the Reduction of Hernia, en masse.*—By Professor South.—[When this untoward event occurs, it has been proposed that the patient should stand upright, and cough, in order to force the sac down again; but this cannot be expected to occur, in consequence of the immediate narrowing of the opening by which the rupture-sac has passed into the abdomen.]

Cloquet states that even in the dead subject, this opening contracts directly after the ascent of the rupture-sac, and, to a certain extent, prevents its reappearance externally. If this be so in the dead, it is still more probable that still greater contraction occurs in the living subject, and, consequently, the re-descent of the rupture-sac is still less likely to be effected. Some other remedy must, therefore, be employed, "which," says Dupuytren, "consists in seeking for and drawing down the rupture by the opening through which it has passed into the belly, being assured that it will be found lying on the internal surface of that opening, where it can be

laid hold of with the forceps, and drawn out, with or without cutting the edge of the ring."

Now, whether the swelling can be distinctly made out, or whether there be only sufficient presumption of a reduction in mass having been effected, the operation should be conducted with great caution, as it has more or less of an exploratory character. It consists in cutting into the cavity from which the rupture-sac is presumed to have been thrust up. Most commonly, in inguinal rupture, the sac, whether full or empty, is situated in front of the spermatic vessels, which it conceals; if, therefore, when the cremaster muscle be cut through lengthways, an empty space be found, behind which are the spermatic vessels, and into which the finger may be introduced and carried up into the belly through the rings and inguinal canal, and if this cavity be shreddy, and have not the shining and smooth appearance of the inner surface of the peritoneum, then it may be presumed the sac has been thrust up, and the cut must be carefully extended upwards till it can be reached, and then attempted to be brought down into the situation it had previously occupied. When this is done it must be freely opened, the stricture fully divided, and the gut returned. If, on the contrary, when the cavity cut into is found smooth and polished, there is little doubt that it is the rupture-sac undisturbed, and the explanation of the symptoms of strangulation must be sought for in some other cause. But if, after cutting along the spermatic vessels, there be not any cavity, either shreddy or polished, if the finger cannot be passed into the belly, and if the spermatic vessels be found in their natural position and connection, then it may be presumed that there has not been any reduction, because there has been no sac to return. The part to be selected for examination, and the extent of the cut, must depend upon the information obtained as to the extent to which the rupture is supposed to have reached; therefore it would be lengthways and lower in presumed scrotal rupture than when it has only been commonly protruded through the external ring, and still higher if it have not descended through the ring. When a femoral rupture is supposed to have been bodily returned, the character of the void, if any, and the capability of introducing the finger into the belly through its aperture, will show whether it be peritoneal sac opened, or merely the space which it had previously occupied; and, if the latter, the finger must be passed up towards the belly, and the sac, if reachable, brought down and opened. But if there be no cavity of any kind, then it may be presumed that there has been no rupture down, and the cause of the disorder looked for elsewhere.

If the warm bath, bleeding, and the taxis be unavailing, it is advisable that the strangulated bowel should, as speedily as possible, be set free by a surgical operation. Other remedies have been proposed for use previously to operating, with the expectation of favouring the return of the bowel, but they are rarely efficient, and as delay is created by their employment, and no time can be

spared when there is fair ground for believing that the operation will most likely be required, it is better not to make use of them.

I may observe that it is far from unfrequent to find patients labouring under strangulation drenched with purgative medicines, the greater part of which, if fluid, is rejected almost as soon as swallowed, and thus the vomiting rendered still more distressing. Occasionally the practitioner congratulates himself on finding that the stomach will retain calomel and colocynth, and hopes that the bowels may be relieved; an expectation, however, which will of necessity be disappointed, if it be bowel that is strangulated. The celebrated Monro primus says that he has more than once reduced a rupture with a smart dose of calomel and jalap. No dependence, however, can be placed on medicine given by the mouth, and therefore its administration that way is useless. Mr. Pott, however, observes, "Though I cannot say I have seen frequent benefit from the exhibition of catharties by the mouth, yet I have often experienced the good arising from acrid stimulating glysters, and suppositories frequently repeated, particularly from the smoke of tobacco, and from a composition of salt, honey, and aloes, boiled to the proper consistence of a suppository. By these I have seen very alarming ruptures returned, when they have been thought capable of being relieved by nothing but the chirurgical operation."

Such is Mr. Pott's opinion in regard to clysters, and it is reasonable to expect by exciting the action of the colon below the strictured part, more especially in those cases where part of that bowel is strangulated, that the gut may be drawn out of the sac, and thus reduction effected.

The use of tobacco clysters, in the proportion of a drachm of the herb to a pint of water, infused for ten minutes, half of which was to be thrown up, and the other half after the lapse of half an hour, if the first did not produce effect, has been strongly urged by many surgeons, and especially by Sir Astley Cooper. It is, however, a very uncertain as well as unsafe remedy; the great difference in the strength of the tobacco renders it uncertain, as with the same quantity of the herb its active principle may vary considerably, so that it either acts violently or not at all; it is also unsafe, as one person will bear without inconvenience a quantity which will almost extinguish life in another, owing to peculiarity of constitution. I do not, therefore, employ this remedy, nor am I disposed to recommend it. The effect of a tobacco clyster is to produce squeamishness and great prostration of strength, under which, certainly, attempts at a reduction are more hopeful. But the same effect is produced by a warm bath and bleeding more certainly and more safely.

Vomiting with tartar emetic has also been recommended, and I have seen one or two instances in which reduction has been effected whilst the patient has been suffering greatly from its depressing effects. But I should not employ it, for usually there is already vomiting sufficient, and the efforts made in that action are more

likely to force down and increase the quantity of bowel thrust down than to favour its reduction, for it cannot very well be supposed that the bowel will be pulled out of the sac into the belly as the vomiting proceeds.

It must, however, be admitted that any or all of these remedies must be resorted to when the patient will not submit to an operation. In addition to these, cold applications have been made to the rupture-sac, to diminish the size of its contents by emptying its vessels of their blood, and by producing a sort of contraction in the skin, which shall gently constringe the sac and its contents. Monro primus was accustomed to apply cold claret for this purpose with success – a sad waste of good liquor, however, inasmuch as cold spring water would have been as efficient, if not more so—a good example of which is mentioned by Petit, who, having bled eight times a patient with strangulated rupture, and used other remedies without effecting reduction, was on the point of proceeding to operate, when the grandmother rushed in and prevented the operation, saying she would cure the boy in a minute. She then laid him naked on a coverlet upon the ground, and, having separated his thighs, she smartly and suddenly dashed a bucket full of water fresh from the well upon his scrotum and thighs, and the cremaster and dartos being immediately excited, contracted suddenly and completely, and returned the rupture.

Ice, coarsely bruised and mixed with salt, in such quantity as to half fill a bladder, and laid on the swelling so that it wraps round it, is, however, more commonly employed; and if ice cannot be procured readily, a freezing mixture of hydrochlorate of ammonia and nitrate of potash, five ounces of each to a pint of water, may be put in a bladder and applied as a very efficient substitute. It is necessary, however, in using great degrees of cold, that the swelling should be carefully watched, or the skin may be found frost-bitten and slough, which occurred to a patient whom the elder Mr. Cline attended with Mr. Sharp: the ice in this case was applied for thirty-six hours, at the expiration of which time the skin became absolutely frozen, extremely hard and discoloured; when warmth was applied the redness and circulation were restored; and the contents of the sac returned with a gurgling noise. About ten days after the integuments sloughed off, but the patient did well.

Under favourable circumstances, after the reduction of a strangulated rupture, the symptoms generally subside: the vomiting ceases, the bowels, usually in a few hours, begin to act with or without the aid of medicine, and the patient is soon restored to health. But, sometimes the peritoneum, and even the bowel, have become so inflamed that closely resembling symptoms still continue, and require corresponding treatment with calomel and opium, general bleeding, leeching and blistering the belly, or the application of large light poultices; occasionally, indeed, such cases may prove fatal, The strangulation also may have existed such time that the bowel

may be unable to recover itself, even when returned into the belly; and the patient dies.

The rule, therefore, in all cases of strangulation is, after failure of reduction by the taxis, assisted with warm bath and bleeding, to advise the immediate performance of an operation, as the only mode of cure; and to impress upon the patient's mind, that if performed early, it is little dangerous and generally successful, but that the longer it is deferred the less likely is it to be successful, on account not only of the increasing injury of the strangulated bowel, but the setting up or spreading of peritoneal inflammation.

Medical Times, May 16, 1846, *p.* 126.

120.—*A New Truss for Inguinal Hernia.*—By David Tod, Esq., London.—[In a communication to the *Lancet* of July 4th, Mr. Tod gives a description of a new truss for inguinal hernia.]

The pad, which is about the size and shape of the point of a man's thumb, is made to press gently over the internal abdominal ring only, so as to allow the muscular fibres of the ring to retain their natural figure. The spring of the truss is made to ascend from the pad obliquely towards the spine of the ilium; then to form a curve round the skin covering the lumbar muscles above the crista ilii, and to terminate about half way between the umbilicus and the spine of the ilium of the opposite side, upon the anterior surface of the abdomen. The pressure of the truss is confined to the pad and distal end; but care is requisite in fitting these two extremities to the parts where the pressure must be made, otherwise the instrument will be of no use to the wearer.

As the bones of every person have a something peculiar to them, I make it a rule, when required to provide a truss, to take the size and shape of the pelvis correctly, then to fit the spring to the patient, and after adjusting it to the body, to harden the steel in oil and cover it with leather.

No wool or cotton should be used in covering the steel spring of a truss, for these substances generate heat and produce pain. Neither should the pad contain anything but a piece of soft elastic cork, about half an inch in thickness. and covered with wash-leather; and to prevent any galvanic action from annoying the wearer, only one kind of metal should be used in the construction of the instrument.

When the truss is in use, none of the actions of the abdominal muscles should be interrupted, for very little pressure of the pad is required to retain the intestine within the abdomen. In proof of this, I need only refer to the effect produced by the point of a finger when pressing gently over the internal abdominal ring.

When a truss fits a patient properly, it never shifts out of its position, nor gives the least trouble to the wearer.

Lancet, July 4, 1846, *p.* 10.

121.—*On an Early Resort to a Surgical Operation in Strangulated Hernia.*—By Dr. WARREN.—[From the *Medical Gazette* of August 7th, 1846, we extract some admirable remarks, by Dr. Warren, on the necessity of an early operation in cases of strangulated hernia. It has been argued by some, that the taxis in many cases will, after repeated and diligent trials succeed, and of course, is not followed by the bad consequences of herniotomy; but we have no doubt that a greater number of lives would be saved by an early resort to the operation. Dr. Warren observes:]

The common advice is to employ pressure, and afterwards a certain routine of applications, viz., bleeding, the warm-bath, cold to the part, injections of tobacco, with perhaps other remedies, as opium, belladonna, &c., and if these fail, then to operate. In the meanwhile the patient continues in great distress, with an inflammation gradually increasing, and threatening to become unmanageable and fatal. A discussion of the utility of these and other modes of effecting the reduction would extend this paper to too great a length; I will only, therefore, briefly state the results of my experience in regard to them. First, pressure, actively and judiciously employed for a short time, is proper and indispensible; if long continued, either by the hand, bandage, bags of air, water or mercury, it is calculated rather to increase inflammation than to reduce the hernia. Second, bleeding, as above stated, may be carried to a considerable extent under the eye of a judicious and experienced practitioner. Third, the warm bath may be resorted to in mild cases, but in bad strangulations it is useless, and sometimes seems to increase the tension of the abdomen. Fourth, cold to the part may be employed for a short time in the early stage of the affection; when long continued it may produce gangrene, as I have myself experienced. Fifth, the injection of tobacco is an uncertain and dangerous application, wholly inefficacious when the strength of the infusion is weak, and dangerous when it is strong. Sixth, large doses of opium I have known to be useful, giving the patient temporary relief, and afterwards causing muscular relaxation favourable to the reduction of the hernia. Purgative medicines are almost always pernicious. The local application of belladonna, as practised in Germany, appears to me to be a trifling with the life of the patient. It would not be proper, for reasons already hinted at, to consider in this place other modes of treating strangulated hernia; as, for example, the attempt to remove the stricture by dilatation without cutting. This proposal, made by a distinguished English physician, seems to me rather extraordinary; in nearly every case of strangulated hernia which I have seen and known of, there has been barely room to introduce a small instrument, such as a director, or a narrow-bladed knife. The attempt to introduce and employ dilators, of sufficient strength to distend the fibrous apparatus of the abdominal and crural rings, would, I humbly conceive, be nugatory, if not dangerous.

It would seem, from the recent reports of the Parisian hospitals,

that the operation is usually too long delayed, being deferred for two or three days. (See the Reports of the Practice in Hôtel-Dieu. *Paris Med. Gaz.*, vol. x.) This matter is the more worthy of discussion, for we look to these hospitals as authority not be excelled, on the subject of surgical operations. From data collected by M. Malgaigne, it appears that the number of cases of strangulated hernia operated upon, in the hospitals of Paris, from January 1st, 1836, to December 31st, 1840, were 220, and of these 133 died. (Vide *Gaz. Mèd. de Paris*, tom. x. p. 450.) Also from the surgical records of the Hôtel Dieu, as given in the same volume of the work already referred to, on page 355, it appears, that the number of cases of strangulated hernia admitted to this hospital during the year 1841, were, of crural hernia 6, of inguinal 3. The deaths of those operated on were 5; one death occurred in a patient not operated on. Allowing, then, that this one case was of too long standing to permit an operation at the time of its admission to the hospital, we still have five deaths in eight operations. The result in our practice, as already stated, has been very different; it being a rare occurrence for us to lose a patient after the operation for strangulated hernia, if called to him in the first period of the attack. Possibly these cases alluded to as received into the Parisian hospitals may have been generally strangulated for some days prior to their admission.

Another remark which may be made in this connection is, that if the operation be long delayed, the parts swell, and thus increase the difficulty of the reduction. In fact, the surgeon should bear in mind, when he employs taxis, the difficulty which may arise, if he is compelled to resort to the operation, from the swelled state of the hernial contents, and their increased sensibility, in consequence of pressure too long continued.

For these reasons, we cannot too strongly recommend an early resort to the operation in cases of bad strangulation; those where the pain, tenderness, and firmness of the tumor are great, and where a constitutional affection distinctly exists. In such, after a scientific and cautious use of pressure, I should advise the following course—that general bleeding be immediately employed, and continued until the patient is made faint. This course will bring on that faintness, which produces the highest degree of relaxation, as well as exert another most important effect in preventing or diminishing inflammation in the affected part. In this state the hernia may usually be reduced, if reducible without an operation. The employment of the warm-bath, of cold to the part, of tobacco, &c., is inferior in efficacy to copious bleeding; they exhaust a precious period of time, and the strength of the patient. But in cases of strangulation not attended with severe pain, or other local and constitutional disturbance, the operation should not be too hastily resorted to.

With regard to the seat of the stricture, the question has been agitated in the French schools, whether strangulation ever exists in

the external abdominal ring, and whether it is not always situated in the neck of the hernial sac. In most of the cases of inguinal hernia, which we have had occasion to see, the strangulation was in the external abdominal ring, and the division of this part relieved the stricture, and allowed the hernia to be returned without any interference from the neck of the sac. None of the cases here described go to show that the stricture was in the mouth of the sac. I have, however, operated on cases where the stricture was at the upper ring, and some of these might, no doubt, be cases where the stricture was produced by the neck of the sac; but they are comparatively rare.

Another doctrine has been maintained by high authority, which teaches, that a considerable proportion of cases of supposed strangulated hernia are cases of inflammation of the hernial sac. The history of the instances falling within our experience does not afford any support to this doctrine; and the appearance of the hernial contents in those operated on proves that they were inflamed from interruption to their circulation. In case fourth, for example, the intestine below the stricture was nearly black, but when an additional portion was drawn from the cavity of the abdomen, for the purpose of disengaging it from the stricture, the part thus drawn out was not discoloured. None of the cases reported in this article support this doctrine of peritoneal inflammation, and although such cases may sometimes present themselves, their occurrence is, we believe, exceedingly rare.

The practicability and utility in some instances of dividing the stricture, without opening the hernial sac, have been established by the experience of various eminent surgeons. We have here mentioned two cases, the first and third, in which this practice was employed with perfect success; in the case of crural hernia in the male, it was attempted, but could not be executed. On the whole, we think that this method of operating should be tried more frequently than it has been heretofore; we may even say that it should be generally attempted. In cases where there was reason to suspect gangrene of the hernial contents, it would be improper; in such it would be proper to open the sac, and give the gangrenous part an opportunity of separating. In cases where the stricture was in the neck of the sac, whether at the lower ring or the upper, this operation would be inapplicable, but such cases, we apprehend, are not very frequent.

The last point which remains to be noticed is, the possibility of conducting the treatment, subsequent to the operation, so as to give the patient some security against the return of the rupture after his recovery. In this case the patient wore a bandage for a few days; after the adhesion of the wound, it was discontinued. When he arose from his bed, afterwards, while he walked about the wards, and when he quitted the hospital, he had neither truss nor bandage, nor was there any appearance of the descent of the intestine. The plan to be recommended to gain the desired end is

the following: In bringing the wound together after the operation, introduce the needle for making the suture, at the distance of one inch from the edge of the wound on one side, and bring it out at the distance of one inch from the edge on the opposite side. This suture will include two inches of skin; the thread should be tied so as to gather up this skin over the abdominal ring. Two such sutures should be employed, at the distance of little more than an inch from each other. In this way a natural pad will be formed, which will adhere to the aperture of the ring, and which may be sufficient to prevent the subsequent descent of the hernia.

Medical Gazette, Aug. 7, 1846 *p.* 240.

122. — *On the Treatment of Hæmorrhoids.* — By M. Amussat, Paris. — [The author observes, that, reflecting on the number of accidents which have occurred after the operation by excision for the cure of internal hæmorrhoids, he determined to try ligature, but the mode of application proving inconvenient, and the "solidified caustic of Vienna" having been discovered, he determined to make a trial of it. He says,]

For a long time I employed exclusively the ligature, and of a great number of operations performed by me not one terminated fatally, though I observed some inconvenience to result from that method of treatment. In 1842, the discovery of the solidified caustic of Vienna, suggested to me the idea of recurring to cauterization in order to avoid the numerous accidents which sometimes take place in consequence of the constriction produced by the ligature, and likewise to simplify an operation, the necessity of which is so often felt. During several years cauterization was performed on a great number of patients with the caustic of M. Filhos, *i. e.*, with a cylinder composed of potassa and lime solidified; and the effects of this operation were much more simple than those of the operation by ligature.

In the month of April, 1844, my son, Alphonse Amussat, thought that cauterization of the hemorrhoid *en masse* might be advantageously replaced by the circular cauterization of its pedicle. To attain this end he had made, by M. Charrière, various porte-caustic forceps. Those which I prefer are nothing more than dressing forceps, whose extremities form two little cylinders of about four centimetres in length, and two or three millimetres in diameter, upon each of which has been cut, parallel to its axis, a deep groove intended to receive the caustic of Dr. Filhos, or a paste made of the same caustic pulverized and a little alcohol. The following is an account of a case operated upon by this method, and contains the details of the operation.

[The patient, ætat. 60, of good constitution, had enjoyed excellent health until 1840, when he had for the first time, a discharge of blood per anum. Frequent recurrences of this appeared, especially after the fatiguing labour which his position required him to

undergo. The patient thought he had a prolapsus, and applied a bandage with a pad, which very much embarrassed him. The pain and inconvenience which his disease caused him, determined him to consult Dr. Pouget, who advised a consultation with M. Amussat, and on the 14th of July, it was determined to remove two hæmorrhoidal tumors; these, and not a prolapsus (as the patient had imagined) being the sole causes of the pain which he suffered, and, being prepared for the operation, by taking a mild cathartic and subjecting himself to a strict dietary, it was performed on the 16th of July, 1845.]

The patient after returning an enema which he had just taken, made strong expulsatory efforts as if to go to stool; two internal hemorrhoidal tumors could then be seen of the size and form of a large bean, situated upon the lateral portion of the rectum, at a short distance from the anal orifice, likewise two external ridges corresponding to the internal hemorrhoids. The patient having placed himself on the right side, I seized the left hemorrhoid, the larger of the two, with my porte-caustic forceps, and held it in this manner during a minute and a half. I then opened it with scissors in the direction of its length to empty it of the little blood which it contained, and still holding it with the forceps, cauterized its interior with a cylinder of Filhos caustic. At the expiration of half a minute more the operation was finished. Injections were made in order to remove the particles of caustic which adhered to the surrounding parts, and the patient got immediately into a hip bath which had been prepared beforehand.

The patient remained several hours in the bath without experiencing any sharp pain and without having the least feverish excitement; he passed a good night, and the next day felt but very slight pain. The cauterized hemorrhoid was flat, blackish, like a true eschar, and the laminæ resulting from the incision were perfectly distinct. Strict diet and a slightly astringent drink were prescribed in order to avoid stools which might have caused the hemorrhoid to fill before the time necessary for its elimination should have elapsed. The following days the patient was subjected to the same regimen, viz., frequent hip-baths, injections, and cataplasms, with no other nourishment than a little broth. The seventh day the hemorrhoid came away in pieces after a moderate stool, and without causing the patient any suffering. The eighth day he felt very well. In place of the destroyed hemorrhoid was seen a little linear cicatrix about three millimetres in length, surrounded by a small reddish areola, with a slight suppuration. The other hemorrhoid seemed to have diminished in size, and its surface was slightly inflamed.

During the seven days preceding the fall of the canterized hemorrhoid the patient had several stools, small in quantity, and almost liquid, provoked by injections, but the process of elimination was in no wise altered by them. In the course of the treatment, having

several times complained of a painful point near the left external projection, I made with a lancet a slight incision, which gave issue to a red granular matter, the escape of which gave the patient relief. Some days after I destroyed the second hemorrhoid by the same method, with the omission, however, of the longitudinal incision, which omission rendered the process of elimination a little more painful. About the middle of the month of August the patient was entirely cured.

[We are indebted to Dr. Henry Selden, of Norfolk, Va., through whom M. Amussat transmitted to us this very interesting paper for publication, for the translation of it here given.—Editor of the *American Journal.*]

American Journal of Medical Sciences, April, 1846, *p.* 346.

123.—*Fissures of the Anus, with a Condyloma.*—By Dr. Hargrave, of Dublin.—[The patient was admitted into the City of Dublin Hospital, May 23rd, 1846, and complained of intense pain on having a motion, which continued for some time afterwards, and was so violent that she dreaded the call.]

On examination of the anus, the orifice presented itself as the deeply depressed centre of a large and regularly defined circular condyloma, fully of the size of a crown piece. Into it from the anal opening six radii extended to its circumference, presenting so many fissures; of these, two lateral, and one at the anterior part of the verge of the anus, were the deepest, especially the last, which crept and passed upwards into the intestine. She could scarcely endure the introduction of the finger into the rectum. She states that she never suffered from syphilis.

To all the fissures the solid nitrate of silver was freely applied, also lightly to the condyloma, and then dressed with dry lint and a T bandage.

To have an emollient enema to-morrow morning.

30th. Judging from her statements, the nitrate of silver produced almost unprecedented pain, which continued for some hours, though the usual application had been used to allay any distress that might arise from it. She confesses herself much benefitted from it, as she experienced but little distress this morning from the action of the enema. The state of the fissures much improved, suffering distress from none but the deep one at the anterior part of the anus, and one on the left side.

June 1st. Finds herself better, but complains of debility.

℞. Inf. quassiæ, ℥iv.; aquæ lauro cerasi, ʒi.; aquæ caleis, ℥ij. M. sumat. ℥i. ter in die.

The nitrate of silver again applied to the remaining fissures.

From this date till the 17th, the nitrate of silver was used simply for the fissure at the anterior part of the anus. The bowels relieved by occasional doses of castor oil and the emollient oleaginous enema.

On the 19th, she was discharged the hospital well; no inconvenience from the fissure; the condyloma also cured.

Observations.—From the severity of suffering that this patient experienced, I was much disposed to the opinion that no permanent relief would be obtained from any treatment but the actual division of the sphincter by operation, particularly as the anterior one extended into the rectum. To avoid, if possible, the use of the knife—which should be the rule both in public and private practice with the well-educated and scientific surgeon—I determined to observe the effects of the free and decided application of the argent. nit. which on this occasion answered in the most satisfactory and efficient manner.

In the *Arch. Gen.* for April of the current year, is a memoir on the submucous myotomy of the sphincter ani for the relief of its spasmodic action and contraction, as the means of cure for the exciting causes of this very distressing malady. It is a simple operation, and is performed as follows:—The bowel being previously cleared out by an enema, a small puncture is then to be made in the skin at the distance of from eight to ten lines from the anus, or from two to three centimetres. The index finger is next to be introduced into the rectum, so as to keep the mucous membrane tense, the skin at the same time being stretched on either side by an assistant. The tenotome is then carefully to be passed between the mucous membrane and the sphincter, and the muscle divided to the requisite extent. As soon as the section of it is made, the finger in the rectum feels the solution of continuity between the divided portions of the muscle, which is preceded by a peculiar noise—"*une espece de craquement.*"

This is a very ingenious operation, and one which will answer in many cases, but must be, as all operations, limited to their proper range of selection. A case is given in the above memoir of a double submucous section of the sphincter muscle, which afforded a complete and permanent cure. The after-dressings consist either of lint covered with simple cerate, or lint wetted with cold water.

Dublin Medical Press, Sept. 2, 1846, *p.* 149.

124.—*On Fissure of the Anus in Infants.*—By M. Duclos.—[It appears from the experience of several French surgeons, that this is a disease to which infants are particularly liable. This is somewhat at variance with the generally received opinion of the profession. M. Duclos mentions the case of a child, a year old, who had laboured under constipation nearly from its birth. The bowels were only moved every third or fourth day, and defecation was attended with excessive pain, straining, and often with the loss of blood; this, however, always came away either before or after the fæces—never mixed with the stools. The general health was pretty good. M. Duclos says:]

On examining the anus, the following was found to be the state of parts:—The circumference of the anus was perfectly healthy, but on deeply separating the folds at the anterior part and between two folds of skin, a fissure, a millimetre in width, and about five millimetres in length, of a red colour, was distinctly perceived. It was the more clearly seen, as the child screaming violently, protruded the anus. The constriction of the anus was so great, that the extremity of the little finger could scarcely be introduced. M. Trousseau prescribed an enema, composed of extract of ratanhy, one scruple; water, three ounces. The child kept the injection for five minutes, and returned it along with soft fæces. The injection was repeated daily for five days. Each time the passage of the fæces appeared less painful, and on the sixth day the injection was discontinued. The motions were then easy, free from blood or pus, and unaccompanied by pain. The child left the hospital ten days after, quite cured of the anal affection.

The second case occurred in M. Trousseau's private practice. The child, eight months of age, well developed, and in previous good health, had been suckled by the mother until the age of six months and a half. At that epoch it was weaned, and was subsequently attacked with violent diarrhœa, which gave way under the use of emollients. The diarrhœa was followed by obstinate constipation. This state had existed for about eight days, when the child was seized, during defecation, by violent pain at the anus, and the fæces were found tinged with blood. From that time the child suffered great pain on defecation, and for some minutes afterwards. The fæces were hard, and generally tinged with a few drops of blood. The child was constipated. General state satisfactory. On examining the anus, around its orifice there were found a little erythema and eczema, which had been occasioned by the diarrhœa, and were fast dying away. Behind, and to the left, on separating the folds of the anus, a fissure, about two millimetres in length and one in depth, of a rosy colour, was discovered. It was very distinctly seen on the child's protruding the anus in an effort for defecation. The anus was considerably constricted.

The same treatment was adopted as in the former case, and with equal success. The fissure cicatrized completely in about ten days, all pain on the evacuation of the fæces disappearing.

Lancet, May 9, 1846, *p.* 521.

ORGANS OF URINE AND GENERATION.

125.—ON LITHOTRITY AND LITHOTOMY.

By R. Liston, Esq., F.R.S., &c.

Mr. Liston is one of the few surgeons in this country who have taken much pains to acquaint themselves with the performance and advantages of lithotrity, and his evidence in its favour is of the more importance, inasmuch as the nearly uniform success which has attended his lithotomy operations might have prejudiced him against other procedures. He says:—

"Until very lately, patients applying to surgeons were constantly recommended to submit to the knife, in order to get rid of stone in the bladder, whatever might be the size of the concretion, or the state of the urinary organs. On the other hand, if he fell into the hands of the professed grinder, no matter what the peculiarities of his case, he was as certain to be subjected to the boring or hammering processes. Now that the merits of both operations are better understood and appreciated—some few surgeons having thought proper to turn their attention to the matter, and study and understand lithotrity as well as lithotomy—patients have a chance of being treated judiciously and conscientiously, and of having that proceeding resorted to which is adapted to their respective cases. I was not slow to adopt the operation of crushing, have always had a favourable impression of it, and have throughout used the same language regarding it, yet I have the credit of being an opponent to lithotrity. I have all along been, and am certainly still, opposed to the abuse of any one operation, by its indiscriminate employment in all cases, and by its being practised by those alone who know no other. It can be employed safely only by those who understand well the healthy anatomy of the urethra and bladder; who are acquainted with their sympathies, vital actions, and pathological changes; and who both understand, and are in the constant habit of treating derangements of their functions. The operation of lithotrity is applicable to patients above the age of puberty, when the symptoms have not endured very long; when the foreign body is ascertained to measure six or seven lines, or even more perhaps, say as large as a chesnut—when the bladder and urethra are in a tolerably healthy and normal condition—as indicated by the power to retain the urine comfortably for several hours, and to pass it in a tolerably free stream; and when the viscus admits of injection and a careful exploration.

The operation of lithotomy must yet continue to be performed on children, and on those of mature age who are so ill-formed or foolish as to permit the stone to attain an inordinate bulk. The con-

cretions in young subjects are generally composed of a very dense substance, the oxalate of lime, in whole or in part; and the urethra is often so narrow, as to preclude the application of instruments strong enough to reduce them to fragments. The reasons for giving a preference to incision over crushing, when the stone is large, have been already given.

This favourable opinion of lithotrity was published in 1840; since when it has been confirmed and much strengthened by ample experience. Of late years, in point of fact, I have scarcely been obliged to have recourse to lithotomy at all in private practice. At the hospital, patients yet present themselves with large stones and bad bladders. Then lithotomy is both a less painful and much more safe operation as already propounded. During the above period twenty four patients have been cut, and all have recovered without accident; these patients have been of all ages from two to eighty years of age, and some of them not over-favourable subjects. So that, after all, there is not much to find fault with as regards this cruel and bloody 'operation' when carefully set about."

It is satisfactory to know that Mr. Liston's great success as a lithotomist has been obtained by the use of the simplest apparatus, his incisions being commenced and completed by the same straight knife. He makes his external incision very free, but the internal one is very limited. "It should certainly not extend beyond six or seven lines from the urethra outwards and downwards," which in all ordinary cases will allow the requisite dilatation to be safely made. "The object in following this method, is to avoid all interference with the reflexion of the ileo-vesical fascia from the sides of the pelvic cavity over the base of the prostate gland and side of the bladder. If this natural boundary betwixt the external and internal cellular tissue is broken up, there is scarcely a possibility of preventing infiltration of urine, which must almost certainly prove fatal." An opening of this extent, owing to the elastic and yielding character of the parts, will readily admit the finger, and allow of the extraction of a stone of considerable dimensions. In cases in which, from the corpulence or unmanageableness of the patient, or the size and rigidity of the prostate, the inner opening is executed with difficulty, the blunt gorget may be employed for enlarging the opening into the bladder, but Mr. Liston has never had occasion to use it. The exact position of the stone must be carefully ascertained before using the forceps, and its favourable adjustment within these carefully adjusted by the finger. The use of the forceps is in fact the most difficult part of the operation; "and it is equally the duty of the pupil to practise the seizing and extraction of the stone, as it is for him to study the relative anatomy, so that he may be enabled to cut into the bladder with precision and safety,"—an important piece of advice which is much needed, as students invariably occupy themselves with the cutting part of the operation alone. If the surgeon finds upon examination with his

finger that the stone is a very large one, he must convert his operation into a bilateral one before attempting to remove it. If his external incision has been sufficiently free and low enough in the perineum, it will require no enlargement, and he has only to pass a narrow-bladed, blunt-pointed bistoury along the finger, and make a similar incision on the opposite side of the neck of the bladder, directing the edge of the knife towards the right tuberosity of the ischium. In nineteen cases out of twenty the single lateral incision suffices. When the incisions are placed low, and the deeper ones performed cautiously, there is no danger of hæmorrhage; and of considerably more than one hundred operations performed by Mr. Liston, only one old man suffered from hæmorrhage, and that because the diseased condition of the branches of the hæmorrhoidals prevented their contracting when divided. Mr. Liston attributes much of the success of his operations to his practice of introducing through the track of the wound, and securing in the bladder, a gum-elastic tube, which, by facilitating the flow of urine, much lessens the danger of infiltration and its dreadful consequences, and affords an easy means of suppressing any excess of arterial or venous oozing. It need not be retained in children for more than twenty hours, but in old persons of lax fibre it shouldbe kept in for forty or fifty hours at least.

Medico-Chirurgical Review, Oct. 1846, *p.* 425

126.—*New Instrument for Lithotrity.*

Dr. Arthault has invented a new instrument for crushing calculi in the bladder. An experiment was lately made on a subject at the Hospital Beaujon, in the presence of several surgeons. A calculus of the size of a pigeon's egg was introduced into the bladder, and a suture applied so as to close the cavity. The calculus was reduced to an impalpable powder in *three minutes.* Dr. Arthault's instrument thus not merely breaks or crushes, but completely pulverizes the calculus.—*Gaz. Med. Chir.*

Medical Gazette, May 8, 1846, *p.* 843.

127.—*Lithotomy in the Female.*—By W. Fergusson, Esq., Surgeon to King's College Hospital, &c.—[This case was admitted into King's College Hospital, under the care of Mr. Fergusson, Oct. 8th, 1845. The stone was ascertained to be present, and was operated upon on the 11th.]

The patient was placed on the table, and tied in the usual way for lithotomy; a deeply-grooved straight director was introduced into the bladder, the groove pointing downwards, and to the left side; a straight, probe-pointed bistoury was then passed along it, and an incision about half an inch in extent was made towards the tuberosity of the ischium, the wound being limited to the anterior half of the urethra. A slight nick was next made in the right side of the orifice of the urethra, and the director being withdrawn, the

point of the left forefinger was introduced into the wound, and then gradually insinuated into the bladder, at the same time dilating the posterior half of the urethra. The finger having touched the stone, was then withdrawn; a small lithotomy forceps was now introduced, when the stone was immediately seized, and, though the blades slipped once, was speedily removed. It was of an oval form, about the size of a pigeon's egg, and composed chiefly of lithic acid. Seven, p.m. Patient comfortable, and in good spirits. Water passes freely, and without much pain.

[Everything went on favourably, and she was discharged cured on the 31st.]

Mr. Fergusson called attention to the peculiar operation which had been performed in this instance, differing, as he stated, in some important respects, from the operations usually resorted to in the female. There had been here, as in most other instances, a choice of means of cure. As to lithotrity, he did not think it eligible in this case, chiefly, perhaps, on account of the timidity of the patient, and her consequent restlessness when touched by the surgeons. For the same reasons, dilatation did not appear practicable; and he had therefore to adopt a proceeding whereby he could at once remove the stone while the patient was held steady by main force. The operation which he had performed was of a compound character, the opening necessary for the extraction of the stone having been made partly by incision and partly by dilatation. He had described this operation ever since he had been a teacher, and was disposed to think it the best mode of relieving a female from stone of all with which he was acquainted. In the process by dilatation, he had remarked, both on the living and the dead body, how slowly the external orifice of the urethra dilated, and how much pain it caused; indeed, the tissues in this part seemed incapable of dilating to any extent likely to permit the passage of a large stone, unless the force were very gradually applied. Towards the back part of the passage, however, and at the neck of the bladder, the strictures yielded more readily, and they seemed also to regain their tone with much more facility. It was an error to suppose that dilatation, in whatever way performed, invariably saved the patient from dribbling of urine ever after. Very recently, a case proving the reverse had been under notice in the hospital. A girl nine years of age, had a stone extracted, some years before, by dilatation; but she never since had power over the stream of urine. In lithotomy, as usually performed, there was even a greater risk of this unhappy consequence; and although, in either method, especially by dilatation, many cases were familiar to the profession when no such results had ensued, it was yet felt by most practical men that there was great uncertainty as to what might follow any of the usual proceedings in such cases.

After describing the various operations which had been proposed for lithotomy in the female. Mr. Fergusson stated his conviction,

that while there was less positive danger in the proceeding which he had followed in this instance, than in some of the others described in ordinary surgical works, there was, perhaps, greater chance of the parts regaining tone sufficient to give command at will over the stream of urine. The incision in the anterior part of the urethra produced, in his opinion, less injury than dilatation, while, by not applying the knife to the back part of the passage, or to the neck of the bladder, there was positively less risk of severe and dangerous inflammation, while the muscular structures at the neck of the bladder, in the viscus itself, which doubtless gave the power of retaining the water, more speedily regained their natural condition, than after division with the knife. The little notch which he had made on the other side of the urethra might or might not be made, according to circumstances. Here the stone seemed so large in proportion to the parts, that he had thought it advisable; but with a smaller stone, he should extract without it. It would be unreasonable to conclude, from this single case, that this operation was the best that could be performed; possibly the same happy results might, in this instance, have followed any other proceeding; but it appeared to him that there was so much good in this operation, and apparently so little evil, that it was well worthy of further trial.

Lancet, Sept. 12, 1846, *p.* 289.

128.—*Lithotomy in a Female.*—By Dr. Baker, New York.—[Dr. Baker had a patient, a female, with stone in the bladder, in whom the urethra was in so irritable a condition as to prevent dilatation. He resolved to perform the operation by cutting, and thus proceeded.]

The patient was placed on the table and secured in the common way. A straight grooved staff was introduced through the urethra, and the stone felt with the beak of the instrument. An opening was now made by dividing the urethra half an inch posterior to the meatus urinarius with a sharp-pointed bistoury, into the groove of the staff. The beak or probe-point of the lithotome knife was introduced through the opening thus made in the urethra into the groove of the staff, and pushed forward along the groove, in a direction obliquely outward and downward, until it penetrated the bladder, and the incision continued until of sufficient size to admit the forceps. The knife was now withdrawn, and the forceps introduced. A stone about the size of a nutmeg was drawn out. The search was resumed, and another stone secured and removed, and so on to the number of ten, varying very little in size. No more stones being found, the bladder was washed out with warm milk and water, and the patient put to bed. She bore the operation well, and expressed herself as being freer from pain than she had been in six months. She could now lie in any position. The walls of the neck of the bladder were much thickened, probably the result of the long-continued irritation from the friction of the stones.

The satisfactory result of this case is to be attributed to the mode of performing the operation—namely, to leaving the meatus and anterior portion of the urethra undivided. Where dilatation of the urethra is practicable, it should undoubtedly be chosen as the simpler method, but even in this, incontinence of urine is a frequent consequence. Unfortunately, however, in the majority of cases, especially those of long standing, there is so much irritability of the parts as entirely to preclude the success of this operation. Such was the fact with the case under consideration. It is well known to the profession, that the common operation of lithotomy in the female—namely, of dividing the urethra its entire length, is almost invariably followed by incontinence. Such at least appears to have been the experience of Sir Astley Cooper, both in his own operations, and those he witnessed in others He says, "In all the cases of this operation that I have seen performed or witnessed, the urine has not afterwards been retained, but I would not deny that a patient might recover the retentive power. As the loss of retention is a greater evil than I can describe, producing excoriation and a very offensive state, I shall, in any future operation of lithotomy, try what may be effected by employing a suture to bring the divided parts together."

The advantage of leaving the commencement of the urethra uncut, will be apparent, and needs no particular explanation. It at least acts the part of Sir Astley's proposed suture, without the risk of its irritating or being torn out, not to speak of the pain and difficulty of its application. The only precaution I consider necessary to secure success, in addition to the common position and care, is the continued use of the catheter, to prevent the urine flowing through the wound. The two extremities of the wound being secured by natural structure, and the wound being kept free from urine by the use of the catheter, there is nothing to prevent its rapidly and permanently healing, as in other parts. This operation, so far as I know, was originated by Dr. Mitchell.

Lancet, May 30, 1846, *p.* 604.

129.—*On the Value of Instruments in Detecting Calculus.*—By M. Civiale.

From the moment my opinion is formed on the aptitude of the organs to admit of the use of the sound, and to bear it for a sufficient length of time, I at once commence its employment. The method varies according to the object in view. If I wish to satisfy myself of the existence of a calculus, attended or not with organic lesions, the plan differs as the bladder is capacious or otherwise. In the latter case, if the viscus contracts energetically; if it contains only a small quantity of urine at the time the sound is introduced; if the liquid is forced out; our first endeavour should be, to prevent it passing away, either by means of the finger, or other means. We must proceed to sound the patient in the ordinary way; but,

besides this, it will be neeessary to rotate the sound, by whieh movement the point of the instrument will be turned towards the reetum. The point must be turned towards all sides of the lower part of the bladder, whieh, as is well known, is less deep, and in some eases of enlargement of the prostate, represents a sort of eul de sae. But, at the same time, care must be taken that the point of the sound does not rub painfully against the surfaee of the bladder, by the surgeon lowering the hand whieh presses on the handle, so that the viseus should have less size, and the eurved portion of the instrument be as long as possible.

By means of this manœuvre, we are enabled, with sounds having a slight eurve, to exeeute without pain, and with all desirable precision, an exploration of the bladder, whieh eannot be done in the usual way, or in so satisfaetory a manner, by other means.

Another modifieation, whieh is even more important, inasmuch as we find it very often applieable, eonsists in injecting the bladder several times sueeessively with lukewarm water, when the bladder contraets with energy; or with eold water under opposite eireumstances. In this way we are enabled to let the bladder pass from a state of repletion to that of emptiness, several times suecessively, so as to vary its form and eapaeity; almost always the organ momentarily beeomes eontracted to sueh an extent, that not only the surfaee to be explored is mueh diminished in size, but the walls of the bladder eollapse on the instrument, so that the stone, if the bladder eontains one, is readily felt.

In simple eases it is rare for the surgeon not to diseover a ealeulus, however small it may be. But in eases where the bladder presents eolumns, enlargements of the prostate, or swelling in the neighbourhood of the neck, one essay will be insuffieient; nor must we depend upon the sound alone. For instanee, when a prostatic tumor, or fungus, exists on the inferior surfaee of the neek of the bladder, the sound may depress the swelling, or thrust it baek, so as to eoneeal any small stone lodged behind this duplicature. Moreover, it is often difficult to discover a foreign body in this situation, either by catheterism, or by other means, of which Delpeeh and others have given examples. I have sueeeeded, in many instanees, by employing a sound with a short point, and bent very mueh, and by turning the point downwards behind the tumor, and by moving it laterally. If any doubts exist, they may be eleared up by means of the lithoelaste, whieh should be preferred to the trilabe; whereas, we should have reeourse to the last, if, notwithstanding repeated injeetions of cold water, the bladder does not contract, but presents so large a size that the sound is unable to explore it to a suffieient extent.

Lancet, Aug. 8, 1846, *p.* 157.

130.—*Calculi of the Prostate Gland.*

A discussion which occurred recently at the "Societé de Chirurgie," on prostatic calculi, and which is reported by the *Gazette de Hôpitaux*, elicited the following remarks on the subject:

M. Lenoir stated that a patient, fifty-five years of age, had been addressed to him by a provincial surgeon, under the impression that he was labouring under vesical calculus. On introducing the sound, he found an obstacle which gave a clear sound, and which he thought was a vesical calculus, but on examining digitally by the rectum, he failed to recognise its presence. On exercising pressure, however, on the prostate, he caused the escape of about fifteen small calculi. They were of a dark-yellow colour, and presented facet surfaces; burnt, they gave a decided animal odour. The patient who, when he entered the hospital, had all the symptoms of serious vesical catarrh, left nearly well. A few months later, he was again sent to Paris, under the idea that he was labouring from vesical calculus, and a number of small stones were again emitted, by pressure of the prostate. Vesical catarrh was present, as on the first occasion. M. Lenoir thought that the calculi were formed in the ejaculatory ducts, and that it was because they occupied the orifice, that these produced, when touched with the sound, the sensation of a stone in the bladder.

M. Nelaton had met with a case at the Hotel Dieu, similar to the one of M. Lenoir. The friction of the sound over a hard substance in the region of the prostate had led him to recognise the presence of prostatic calculi. He managed to withdraw several by means of lithotritic instruments, and the patient left apparently cured. Two months afterwards he returned with the same symptoms, indicating prostatic calculi, and, in addition, with a vesical calculus. He was not able to lay hold of the latter, in order to crush it, and was obliged to perform the operation of lithotomy. On scratching the surface of the incised prostate with his nail, he managed to make several calculi fall, similar to those described by M. Lenoir. The patient was cured. M. Michon, M. Guersent, and M. Laugier, thought that prostatic calculi were not rare; M. Malgaigne was of a contrary opinion.

Lancet, May 9, 1846, *p.* 521.

131.—*On the Ectrotic or Abortive Treatment of Gonorrhœa.*—By C. D. Arnott, M.D., &c.—[The efficacy of nitrate of silver, both in simple and specific inflammation, is sufficiently proved, as in erythema and simple cases of parouchia, the stings of wasps, bees, gnats, &c.; also the bites of rabid animals. In addition to its sedative quality, it appears to decompose or neutralize the poison, or arrest the zymosis, by which the poison is multiplied in the system. Its use in the early stages of gonorrhœa will be found useful. Dr. Arnott observes:]

The mode of employing the remedy is simple. An injection,

composed of twelve grains of the salt to the ounce of water, is the proper strength to use. About a couple of drachms of this, by means of an ivory (or, for obvious chemical reasons, what is better, a glass) syringe, is to be thrown into the urethra, the penis being at the same time elevated and compressed at about two inches from the orifice, thus ensuring complete application of the solution to the urethral membrane within this range, and no further. The nozzle of the syringe being withdrawn, the orifice of the urethra is to be occluded, and the solution kept in contact with the mucous membrane for the space of not less than half a minute. No urine is to passed for half an hour after the injection, and the penis is to be kept suspended. The immediate visible effect of the remedy is to form a coagulated film on the surface of the urethral lining, and this, undoubtedly, is a main agent in effecting the cure, by the protection it affords to the delicate and abnormally sensitive membrane during urinary evacuation. That it has this effect is evidenced by the great diminution of pain which the patient at once experiences during micturition. But as to its *modus operandi*, we have also to consider its sedative action in subduing crescent inflammation, and its probable quality in neutralizing specific virus, and arresting zymotic increase.

The observance of rest and antiphlogistic regimen would, in all probability, aid the therapeutic influence of this mode of treatment; its beneficial effect is, however, developed under the ordinary mode of life, when attended with no flagrant violation of conduct.

As a method of cure, it is in my opinion open to but one objection, — namely, its limited adoption, owing to its applicability extending no further than the early stages of the disease, and these often exciting but little attention. Let it not, however, be disregarded on this account; for, undeniably, many cases of clap present themselves while within the power of the remedy; and for these let it be reserved and had recourse to as a means easy of application and effectual in operation; while those cases beyond its influence may, as heretofore, be set aside, to be dealt with after another more expedient mode.

Ectrosis being available only prior to the suppurative crisis, a gonorrhœa which has advanced thus far must be regarded as beyond its influence; and should the disease persist and progress after one, or at most two injections, any further persistence in the use of the remedy must be deemed unadvisable, and the case consigned to the ordinary tedious treatment.

Lancet, Aug. 1, 1846, *p.* 129.

[M. Ricord's practice seems very similar to the one recommended by Dr. Arnott. In a clinical lecture at the Hôpital du Midi, Ricord says:]

The treatment I find most generally successful, is the exhibition of copaiba in capsules (six to twelve daily), or cubebs, one to two

ounces, together with one injection every day, containing from ten to fifteen grains of nitrate of silver to the ounce of distilled water. The injection should be as much as possible permitted to pass over the whole of the inflamed portions of the urethra, and therefore the patient should use no artificial means to guard against the imaginary evils attributed to the penetration of the injection into the bladder. If that penetration were possible, which the form and direction of the urethra permit us to doubt, the fluid would instantly be decomposed by its contact with the urine, and its passage over healthy portions of the mucus membrane, can do them no real injury. The combination of cubebs and copaiba in *one* preparation I reject, and prefer in all cases prescribing them separately, because if one fails in curing the gonorrhœa, the other remains as a precious therapeutical resource. If the abortive treatment prove unsuccessful, or if the acute symptoms of inflammation have acquired a considerable degree of violence before the patient seeks advice, energetic antiphlogistic measures should be used before the exhibition of cubebs or injections. Baths, local depletion, and laxatives should then be employed, and when they have brought down the excitement in a great measure, the abortive treatment may be again resorted to.

Amongt the most troublesome complications of the first stage of gonorrhœa, we may mention dysuria; antiphlogistic treatment and local baths in luke-warm water, are usually sufficient to relieve it, but, occasionally, retention of urine is observed, and the surgeon is placed between the fear of injuring the urethra by the introduction of instruments, and the necessity of preventing over-distention of the bladder. In these embarrassing circumstances, we should first use every means to obtain evacuation of urine without recurring to the catheter—such as leeches to the perineum—cool lavements—baths; but should the retention last more than forty-eight hours, a gum elastic catheter, of a middling size, and presenting a fixed curve, should be gently and cautiously passed in, and in most cases withdrawn after the operation.

Abscesses often form in the vicinity of the urethra; these should be opened at an extremely early period, in order to prevent the establishment of urinary fistula. We have also mentioned vesical tenesmus as a frequent complication, indeed, as a common sign of deep-seated blenorrhagia; it is removed readily by a very simple method, consisting of the injection into the rectum of four ounces of cold water, with the addition of fifteen or twenty drops of laudanum. When gonorrhœa is on its decline, great benefit may be derived from the following injection twice or three times a day:—℞. Aq. destill. rosar. ℥viij.; zinci sulphatis, plumbi s. acetat. aa. ℈j. m.

In chronic gleet, it is of extreme importance to ascertain the cause to which the persistency of the discharge is due. The urethra should be carefully examined in order to discover any thickening or stricture of the canal; if none be found, astringent

injections with wine, tannin, alum, iodide of iron (two to four grains to ℥viii), will generally be found beneficial. In rebellious gleet, injections with copaiba or cubebs have been recommended, but we cannot say we have ever found them useful.

Medical Times, Aug. 1, 1846, *p.* 341.

[With the opinion of Ricord, that injections never produce cystitis, Mr. M'Donald does not agree; he has seen cases of this kind produced; he therefore recommends the nitrate of silver *ointment*. He says:]

No such results, however, may be apprehended from the use of the nitrate of silver ointment in the manner hereafter described. And that mode of application is far preferable to injection, inasmuch as it is far more manageable, and I believe enables the nitrate of silver more strongly to come in contact with the lacuna magna, which, if it be not the true seat of the disease, yet, nevertheless, holds it firmly. The best method of applying nitrate of silver is, as I believe, that which I before advocated—namely, in the form of ointment,* smeared on a bougie, of the size of the urethra, and introduced for about three inches up its length, and there retained for about three minutes. After its application, immersion of the penis in warm water has been recommended, and I believe very properly.

I do not wish it to be imagined that I am empiric enough to say this means of treatment can never fail; it does sometimes, even when we expect it most to succeed; but as in by far the greater amount of cases it has been found successful, I think it well worthy the attention and practice of surgeons.

Lancet, Sept. 12, 1846, *p* 291.

[Mr. Brett, again, differs in his opinion from the preceding writers, and offers some good suggestions, which we subjoin. He observes:]

Let us suppose a patient to have presented himself at the early stage of the affection—the sooner the better. My treatment is as follows:—Rest and temperate habits being enjoined, I immediately commence with astringents and copaiba. The astringents which I prefer are, the nitrate of silver, a quarter of a grain to the ounce, used once only in the twenty-four hours,† and the sulphate of zinc and alum, from ten to fifteen grains of each to the ounce; at the same time the capsules of copaiba are exhibited in large doses an

* Nitrate of silver, one drachm; lard, one ounce. Mix

† The nitrate of silver is too irritating an astringent to be used often; and when the solution is stronger, it is apt to produce severe inflammation, but, nevertheless, I think that it has the effect of changing the morbid action, and expediting the cure, if used occasionally at long intervals.

hour after every meal. One large dose of the capsules (five or six) is given, when the patient goes to bed, so soon as he feels himself sleepy. The great object is to prevent the nauseating effect of this highly efficacious medicine; for this purpose it must not be taken on an empty stomach, and if the patient can sleep for an hour or two after each dose, it is highly desirable that he should do so; for the same reason, very little fluid should be taken. A small quantity of jam or jelly may be occasionally taken if nausea occurs. The patient is directed to void his urine very frequently—every half-hour or oftener, in ever so small a quantity,—previous to which he injects with a very small glass syringe, not so large as a silver Anel's syringe for injecting the lachrymal sac, and containing not more than half a fluid drachm; this is retained for a few moments, and is carried off by the vis à tergo of the urine, now suffered to escape. If so small a quantity of fluid is injected, it is sufficient to reach along the seat of disease, and it is not necessary to compress the urethra beyond The rash use of injections without regard to the quantity and distance is as dangerous as the unrestrained progress of gonorrhœa itself. But this is not all: I particularly insist on the importance of stopping the exit of the urine by compression of the orifice, at the same time that the effort is made to evacuate, by which means the copabinized urine rushes into the lacunæ, the lacuna magna especially, where the disease also extends.

Thus we have a repeated constriction of the capillaries of the mucous membrane, and a frequent application of the remedy to the part. I have often seen the discharge cease in two days, without the slightest evil consequences; though it is generally necessary to keep up the influence of the copabine in gradually diminished doses, and the injection of the sulphate of zinc and alum at longer intervals, and of diminished strength. Of course it would be absurd to suppose that these measures can be commenced upon when a patient presents himself with chordee, and every other symptom of acute inflammation, who has neglected to consult the surgeon at the onset of the complaint. This would be as impossible as to attempt to cure, by similar treatment, an acute purulent or gonorrhœal ophthalmia, with chemosis and strangulated vessels, threatening sloughing of the cornea, without the previous use of antiphlogistic measures. We must first subdue these highly acute symptoms by antiphlogistics, diluents, and rest; but we shall, nevertheless, do well to commence with the copaiba; for when once the urine is impregnated with its principles, we have made one important step in the vanquishing of the disease.

Lancet, June 27, 1846, *p.* 702.

132.—*On Stricture of the Urethra.*—By L. A. Mercier, M.D.

[In acute gonorrhœa the inflammation is generally most intense at the fossa navicularis; and in chronic inflammatory affections of

the urethra, the disease is worse as we approach the neck of the bladder; and yet it happens that *stricture* is generally situated at the commencement of the bulb. It cannot be owing to the action of Wilson's muscle, for that is upon the membranous portion. Dr. Mercier observes:]

The explanation I would suggest, without attaching to it too much importance, is the following:—A stricture will be more prone to contraction, and will contract more rapidly, the more highly vascular it is. Suppose, then, inflammation in the prostatic region, kept up by the follicles of the gland, extends to the bulb, what will be the consequence? The prostatic part, being held firmly in a state of extension by the body of the gland, which forms, as it were, an external skeleton to it, will not contract; indeed, for the portion of the urethra which traverses the prostate to be materially lessened in diameter, the gland must almost necessarily be in some degree destroyed, as is remarked in the case of M. Vottens, already quoted. The membranous portion may feebly and slowly become contracted; but the posterior part of the bulb will, from its excessive vascularity, undergo this process much more rapidly. Suppose, then, the same action going on in the parietes of these two portions of the canal; the contraction of the membranous being slower than that of the bulbous, will be still further retarded in consequence of the impediment to the passage of the urine through the more contracted part. The membranous portion might even dilate from this cause, and the transformation it had already undergone would favour such dilatation; for fibrous tissues contract when left to themselves, but, on the contrary, expand when subjected to long-continued and often repeated efforts of distension. I have, I believe, proved that partial dilatations of the heart result from transformation of muscular into fibrous tissue; and are attributable to the extensibility of the new tissue being continually acted on by the blood. What I have now said respecting the membranous portion, receives confirmation from my having several times seen the structural alteration which created stricture at the bulb extending to the membranous portion, without in any degree lessening its calibre.

The most frequent seats of stricture, after the bulb, are the fossa navicularis, then the region corresponding to the root of the scrotum, and, lastly, the orifice of the meatus.

[Stricture is very frequently accompanied with inflammation in some other part of the canal; if it be behind the strictured part it may be from irritation caused by the urine. If it be before it, then it is a sequelum of the primitive inflammation, or is caused by the stricture itself, or by stimulating injections applied to the part. Dr. M. observes:]

The most frequent complications, however, are those resulting from the obstruction the stricture opposes to the flow of urine.

This fluid, propelled by the contraction of the bladder, exerts, when impeded, a pressure which dilates the canal; but unless the passage be quite impermeable, the urine eventually escaping, the parietes again close upon themselves; and as this pressure is only exercised at comparatively distant intervals, there would not probably so speedily ensue any considerable dilatation, were not the elasticity of the tissues destroyed by inflammation. Occasionally ulcerating action takes place behind the coarctation, and consumes, partially or completely, the parietes of the urethra, and even the stricture itself. In this latter case the course of the urine may be spontaneously re-established; in the former, the results are not so fortunate, but vary, as ulceration is more or less rapid, if it proceed sluggishly, the tissues having had time to become condensed before being laid in contact with the urine, a circumscribed abscess only forms, which commonly terminates by opening externally, and gives rise to urinary fistula. If the destruction of the walls of the urethra be quick, the urine then infiltrates into the cellular tissue between the different organs, and, spreading far and wide, causes sloughs, the separation of which produces frightful denudation. But generally before this takes place, before even the dilatation of the urethra has become considerable, the lacunæ of Morgagni are enlarged, and form small accessory cavities, which I have seen ramifying to a depth of upwards of four lines. Does the ulceration I have spoken of commence in these lacunæ? It has appeared to me probable in several cases, but I have had no certain proof of the fact.

With the exception of dilatation of its ducts, and sometimes the formation of abscess in its substance, the prostate is seldom altered from stricture. Considering, however, what has been said of the inflammatory nature of the hypertrophy of which it is so often the seat in advanced age, this change might be thought frequent when the urethra is affected with stricture; and it has actually been affirmed, but, in my opinion, erroneously, to be so. I have even remarked in elderly persons who have died with this disease, the prostate smaller and its tissue less altered than the age alone of the deceased would have led me to anticipate.

[The assertion Dr. Mercier made, a few years ago, that stricture of the urethra has small influence over enlargement of the prostate, has been very much criticised; yet he still asserts, from more enlarged observation, that he has not met with a single instance in which stricture has been found post-mortem, with the prostate more enlarged than the age of the patient would account for. Dr. M. Ados says:]

In fine, then, while hypertrophy of the prostate, with which strictures are commonly thought to be often complicated, is on the contrary a rare completion (so rare, indeeed, that it would seem as if stricture prevents the glandular enlargement); we find, then, on

the other hand, frequently accompanied with projection of the posterior margin of the neck of the bladder in those musculo-valvular folds to which I drew attention in a former work.

Medical Gazette, May 8, 1846, *p.* 801.

133.—*On the Employment of Caustics in the Treatment of Stricture.* —By Dr. Civiale.—[The ancient method of treating strictures, "from within outwards," has of late been rendered very precise, as far as theory goes, by the inventions of Ducamp, in France; and our own countryman, Dr. Arnott. Dr. Civiale has given a great deal of attention to this subject. He observes:]

Convinced of the defects of the porte-caustique of Ducamp, I endeavoured to remedy them by giving greater length to the part of the instrument which goes beyond the curvette, provided that I was well assured of having entirely traversed the obstacle, before causing the nitrate of silver to project from the conductor. I employed, at first, a metallic instrument, but afterwards I knew that the flexible sound was preferable. My porte-caustique occupies, so to speak, the middle of it. That part of the sound which projects beyond it is at least an inch in length. The length of the opposite end is not so constant; it extends, generally, to eight inches. The smallest porte-caustiques have a diameter of three-fourths of a line. Their flexibility admits of their yielding to all the necessary movements. The conductors which I employ are very simple, and formed of elastic-gum; sometimes straight, and sometimes curved, according to the situation of the stricture; they are seven inches in length, and from two to three lines in diameter, and, like most instruments of this description, they have a graduated scale, which serves as a guide to the manipulations. The anterior opening is always proportioned to the volume of the porte-caustique, which fills it without being tight.

These instruments, the most simple in construction that have been proposed, are equally so in application. The only difficulty consists in contriving that the extremity of the porte-caustique is completely introduced into the constricted point at the moment when it protrudes from the conductor. This is effected sometimes by proceeding with great gentleness, and by very gentle pressure, accompanied by a slight traction of the penis. There is no fear of the caustic dissolving and acting on the urethra before the stricture, for it is ascertained with certainty that the obstacle has been passed, before even that the nitrate of silver approaches the extremity of the conductor accurately filled by the porte-caustique. But very few attempts suffice to produce the desired effect.

Sometimes we cannot succeed in engaging the smallest porte-caustique into the contracted point, notwithstanding our repeated efforts, whether by modifying the manœuvres, or by employing different conductors, with central or lateral openings. The porte-

caustique only protrudes from the conductor to the extent of two or three lines. This slight protrusion, which is sufficient to lead into error when the instrument of Ducamp is used, or the cauterizing sound, cannot, with the intrument I employ, lead to any mistake. It is to this happy circumstance that I attribute my never having made a false passage, nor observed those severe accidents which the application of the caustic in other hands, and by other methods has produced.

[Civiale is of opinion that the action of the caustic is not thoroughly understood. He says:]

The nitrate of silver does not produce in the urinary canal the effects which are generally attributed to it. Two principal causes have contributed to mislead in this respect.

1st. Practitioners have been led into error by the abundant discharge, but which is not merely from eschars, but consists also of mucus of the urethra, altered by the caustic, and by the coagulable lymph secreted in consequence of the inflammation.

2nd. They have been misled sometimes by the means of exploration, which induced the belief that the obstacle was greater than it really was, sometimes by the dilatability of certain contractions, which led to the mistaking constrictions purely spasmodic, or simple deviation of the canal, for true organic coarctations.

It has been admitted, without reflection, that the nitrate of silver acts solely by its escharotic power: for if each application produced, as has been alleged, a considerable loss of substance, the internal membrane of the urethra ought always to be destroyed, and the parieties of the canal to disappear altogether, when using as many as a hundred cauterizations. Moreover, on one side the obstacle does not depend on a tissue accidentally developed on the surface of the membrane, as it is necessary it should do, in order that the efficacy of the caustic might be attributed to the destruction of this false membrane; but it depends on the alteration of the tissues which it covers, and which the nitrate of silver cannot reach until it has caused this obstacle to disappear entirely.

Finally, post-mortem examinations have shown, as I have repeatedly witnesssed, that the action of the caustic does not leave any traces on the surface of the canal, and that the alterations which are met with appear to be quite independent of it.

[In a case of simple bridled stricture, Civiale considers the action of nitrate of silver very successful. He remarks:]

A first cauterization is equally efficacious in certain more severe cases. But if now and then we obtain still further success by repetition, a period always arrives when the amelioration first observed subsides, and although the applications are then multiplied, the patient no longer passes his urine with facility. Often even the benefit derived in the first instance disappears after many months

of treatment. Such is the case especially when the strictures are long and callous.

When the coarctations are considerable, and the urethra admits with difficulty the extremity of a very delicate bougie, it is seldom that we can obtain an impression with the explorative sound, liable also, to lead into error; and it is still more rare that the porte-caustique can pass the obstacle. In these cases, which are frequent, we must renounce the caustic, or apply it from before backwards.

The application, then, of the caustic, ought to be confined to the cases in which the contraction is linear, the point which it occupies sufficiently dilatable to admit the porte-caustique, and to allow of an exact impression of the coarctation. The result thus obtained serves as a guide, and so soon as the amelioration no longer progresses, we discontinue the use of the caustic, which could now only prove injurious, to resort to other means.

Whenever this rational procedure is departed from, the most serious disorders arise. Without speaking of false passages, which are frequent, and may lead to infiltration of urine, (an accident of which Sir Charles Bell has quoted an example;) without speaking of inflammation of the bladder, or of hæmorrhages and retention of urine, which have led so many practitioners to renounce cauterization altogether, the action of the nitrate of silver in the canal has other inconveniences which ought not to be overlooked,—I allude to the thickening of the parieties of the urethra, and the morbid phenomena which consecutively take place in the genital organs.

Many patients in whom numerous cauterizations have been practised, still have great difficulty in passing their urine, although their urethras admit of sounds of large calibre. The constriction which bougies sustain in these cases, shows how much rigidity the canal has acquired. An attentive examination shows inequalities, cicatrices, indurations more or less extensive, on the points acted upon by the caustic. I have seen these indurations occupy almost the whole of the moveable part of the urethra, the parieties of which had acquired such thickness that great efforts were required to introduce the sound, and greater still to withdraw it after remaining in some time. In these cases, the soft bougies convey often an impression which leaves no doubt of the existence of the lesion, and the patient almost always suffers when an instrument passes the disorganized part of the canal.

Lancet, July 25, 1846, *p.* 85.

134.—*On Urinary Fistulæ.*—By C. Hawkins, Esq.

A fistulous opening into the urethra in front of the scrotum is always very difficult to heal, and you must always avoid it whenever it is possible. A fistula coming through the perineum, or through the scrotum, has a sufficient thickness of cellular tissue between the skin and the urethra to heal up readily. and all that is

commonly required for the new openings to heal, is to enable the urine to pass more readily through the natural passage; but it is not so in the other situation: there it has a much greater chance of cicatrizing, so as to unite the mucous membrane to the skin, and leave the orifice permanently open. If therefore, calculi are passing through the urethra and lodge in front of the scrotum, you should always endeavour to draw them forwards to the orifice, a little of which enlargement may enable them to come out; or if you cannot bring them forwards, you should try to pass them backwards, so as to cut on them in the perineum behind the scrotum. You will endeavour to get these fistula to heal by keeping a a catheter in the bladder, through which all the water may pass, while you prevent cicatrization by the application of caustic, or the actual cautery, so that a granulating surface may be kept up till the edges of the skin come together and unite. I thus succeeded, on one occasion, in healing a small opening an inch behind the glans, through which a calculus had made its way by ulceration. and on another occasion, when an opening had been made by a boy tying a piece of string round the penis, which is not an uncommon trick. But such attempts to heal a fistula on the urethra not unfrequently fail. A boy, about ten years old, was recently sent to me by an old pupil of the hospital, in whom a fistulous opening had been formed, about half way between the scrotum and the glans, by a string tied round and left on eleven weeks before it was discovered; there was a very bad stricture thus formed, which had been two years and a half under treatment, but without any benefit. If the application of caustic, or the actual cautery, fail to keep the orifice raw, so that the granulations may close the orifice, a Taliacotian operation may be tried, through the passage of a little of the urine through the urethra by the side of a catheter makes it difficult to procure union of the new surfaces. A modification of the operation has lately been proposed by Dieffenbach, which consists of not turning a flap of skin round, or bringing the edges of the skin together, but of separating two little lateral flaps of skin sufficiently from the penis at the sides of the fistulous opening, for a larger part of the raw surfaces to be kept in contact; a broader surface for adhesion being thus obtained than when the edges alone touch one another. A case treated by Mr. Le Gros Clark, in this county, is said by him to have thus succeeded, whereas the difficulty of the old operation will be apparent to you from its having been proposed (and I think practised also) that an opening should be made in the perineum, and the whole of the urine obliged to pass for a time through this opening; no drop of water thus irritates the raw surface of the anterior opening, and as soon as it is perfectly healed no difficulty is experienced in healing the posterior one. Fortunately, a fistula in this part is not very common.

Medical Gazette, Aug 7, 1846, *p.* 221.

135.—*Anaplastic Operation on the Urethra of Man.*

In 1841, Drs. Ségalas and Ricord received from the institute a divided prize for a new plan of treatment of urinary fistula. The method proposed by these gentlemen proved successful in several cases which had resisted various operations, and presented as a leading feature the incision of the urethra in the perineum previous to suture of the fistula. The surgeons, whose names we have mentioned, were led to adopt this measure from having remarked that agglutination of the lips of the fistula is almost always prevented by the filtration of a small quantity of urine between the walls of the urethra and the catheter; to obviate this cause of failure they resolved upon deviating the course of the urine from its natural channel, by opening the urethra in the perineum, and placing through this artificial orifice a short caoutchouc tube in the bladder. By this operation, performed some three or four days before any attempt at closing the fistula in front of the scrotum, the success of the plastic operation becomes much more probable, union not being interfered with by the contact of urine with the sutures. When cicatrization has taken place—*i. e.*, after a fortnight, or thereabouts, the perineal catheter was removed, a long catheter being substituted, occupying the entire length of the urethra, and the wound of the perineum healed with the same readiness as the incision made for lithotomy. The correspondent of the *Medical Times* had, when attached to the hospitals at Paris, three opportunities of witnessing the operation, and in all three success was complete. M. Jobert proposes to treat the deformity, peno-scrotal fistula, by single plastic operations, assisted by the permanent catheter; but when it is recollected that this method is very frequetnly unsuccessful, and that failure is always followed by an increase of the fistula, due to the excision of the lips necessary to suture, the safer though more complicated operation will in all probability be preferred.

Medical Times, June 27, 1846, *p.* 243.

136.—*Extravasation of Urine.—Cases and Clinical Remarks.*—By Mr. Quain, of University College Hospital.—[The first case reported is that of a bricklayer, a stout muscular man, 50 years of age, of irregular habits. He was admitted into the hospital on the 5th of March. About a fortnight previously, after a debauch, he found himself unable to void his urine. He was relieved by treatment, and on two subsequent occasions, a catheter was introduced to evacuate the contents of the bladder; shortly after this, he noticed a slight yellow discharge from the urethra, and had scalding; the penis became swollen.

On his admission the penis and scrotum were much swollen, of a dusky colour and hard; urine mixed with pus escaped in small quantity from the urethra, when the patient made an effort to empty the bladder.

Mr. Quain passed a catheter as far as to the perineum when it came in contact with a rough surface, and was obstructed; fœtid pus and urine dropped from the instrument; it was thought advisable to lay open the urethra, which was done as follows:]

Mr. Quain then cut down through the perineum upon the end of the catheter, and gave vent to the urine and pus; the parts cut through were in a sloughy state; the instrument was not passed into the bladder, as the escape of urine appeared free. A long incision was likewise made through the back part of the scrotum, at the raphé, and the fore-part of the prepuce was freely divided, that part being still very thickened and tortuous, so as to prevent the glans penis from being seen. Very little blood was lost. The tongue, at the time, was rather brown in the middle; pulse soft, but not quick; skin cool. He was ordered a laxative enema, to be followed by an anodyne, and a draught of citrate of potash combined with hyoscyamus, the perineum and scrotum to be constantly fomented.

[On the 29th of the same month the wounds were perfectly healed, and the urine escaped by the natural passages. Mr. Quain made some clinical remarks on this case in which he noticed peculiarities not often met with, as the little appearance of mischief on the back part of the scrotum, where it is generally greatest; and also the fore-part of the scrotum and the prepuce were much swollen, which is not usually the case. He remarked that]

The necessity of speedy and decided interference on the part of the surgeon in such cases was apparent. The objects to be attained are, to give the urine a free exit at the point at which the urethra has given way, or behind that point: and to make incisions for the removal of sloughing cellular membrane. The operation in the perineum to attain the first object is the same in all, or at least the great majority of cases; a free incision is to be made into the urethra, through which the urine is suffered to escape, as after lithotomy; no instrument is passed from the perineum into the bladder, the continued presence of one in that organ being generally injurious. The extent of the incisions for the accomplishment of the second object must vary with the extent to which the urine has been infiltrated, and this is in proportion to the time during which the patient has been left without relief, and the closeness of the stricture in the urethra. In one case, there is a circumscribed swelling in the perineum, attended with burning pain, every time urine is voided (abscess in perinæo); in another, the swelling is more extensive, is elongated, and reaches across the perineum; in a third, the back part of the scrotum is likewise affected. In these different cases (examples of each of which have, within a short time, been in the wards of the hospital) the urine escapes by the urethra with more or less facility, and only a small portion of that fluid issues from the natural canal into the cellular membrane. But

when the retention is complete, the patient makes violent and uncontrollable efforts for evacuation, and at length the bladder is emptied, as in the case above detailed.

[Mr. Quain has given other three cases in which the urine became extravasated, and makes some remarks on the local treatment, besides incisions, required in such cases. He observes that]

Besides the incisions, which should be at once resorted to in cases of extravasated urine, the local treatment used in these patients consisted in the application of warm poultices till the sloughs were separated, and careful support of the scrotum, should that part be affected; afterwards, astringent lotions of sulphate of zinc were usually applied. As regards the general treatment, the patient at first are in a state of high fever; the skin is hot, the pulse very quick, tongue coated, often dry and brown, and in most cases the countenance wears an expression of agitation and apparent anxiety concerning their condition. Soon, however, the pulse becomes small, and the skin cold, or even clammy; this change probably accompanies the mortification which goes on in the parts through which the urine has been infiltrated. While the fever is present, the bowels should be unloaded by an enema, and Dover's powder given to procure rest. Afterwards, when the low state comes on, the principal resources are stimulants with opium, until, with returning health, food is taken in sufficient quantity. The form of stimulant is not a matter of indifference; brandy or gin is almost always resorted to by Mr. Quain. He states that he has long discarded port wine; it disagrees with most stomachs, particularly empty stomachs. He has repeatedly seen persons who had been low, and apparently sinking, revived, so to say, under the use of the simpler form of alcoholic drink. Alcohol is easy of digestion, and is, therefore, on this ground, suited to the depressed state of these patients. It is food for respiration, and perhaps it is on this account, in addition to its stimulating influence, that the temperature of the patient becomes raised under its use. But these are reasonings *à posteriori;* after the fact has been ascertained, and the fact itself is the important matter in a practical point of view. Opium is of the utmost importance in these, and in some other diseases affecting the urinary organs, allaying pain and the apprehensions about themselves which these patients so generally feel, and procuring sleep, of which they are nearly altogether deprived. The patients, whose cases are above noticed, took half a grain of muriate of morphia in a draught, or a quarter of a grain repeated at the interval of four hours.

In the cases above noticed, the urine escaped from the membranous part (so named) of the urethra, and it very rarely occurs at any other part. Occasionally, however, the urethra ulcerates in the erectile tissue of the penis, (corpus spongiosum), and the urine escapes into that structure.

Lancet, June 20, 1846, *p.* 670.

137.—*On the Causes and Treatment of Indurated Chancre.*—By Wm. Acton, Esq.

If one symptom of venereal disease can be called more important than another, the united voice of the profession has declared it to be the induration which attends primary sores—a subject well deserving the consideration of those who are called on to treat syphilis in its primary or secondary forms.

Experiments,* by means of inoculation, have recently demonstrated that syphilitic virus coming in contact with living animal tissues produces certain definite effects; that in some cases, but not in all, induration will come on, in one or other of the forms presently to be mentioned; and observation has proved, that when such induration does appear, secondary symptoms invariably follow. Experiment and observation induce us to believe that syphilis, when attended with induration *generally*, is a trifling local malady, and that secondary symptoms are not to be dreaded.

Previous to the complete series of experiments which have established these facts, surgeons denied a sore to be a chancre unless it was indurated: we have, however, now reason to believe, that the poison is one and the same, whether induration be present or not, and it behoves us, therefore, more accurately to study induration, as apparently it will, in some way or other, assist us in solving the difficulties surrounding this part of pathology.

Commencement and Course of Induration.—The surgeon who has opportunities in private practice of observing sores in their earlier stages, finds the first indications of induration in the conversion of the slight puffiness around a common sore into some thickening, which gradually increases, until, in the words of Hunter, "it is very circumscribed, not diffusing itself gradually and imperceptibly into the surrounding parts, but terminating rather abruptly. Its base is hard, and the edges a little prominent." Such a sore is attended with slight pain, it secretes little, and, in fact, makes but trifling progress, and may exist for some weeks in this chronic state.

In other instances, an excoriation following connexion does not heal, slight discharge takes place, which can hardly be called pus, but at once the base becomes somewhat thickened, this soon acquires firmness, and, like the former sore, has a stationary character, the induration seemingly in an inverse proportion to the ulceration, which, however, still exists.

In still more uncommon cases, I have observed a moist surface, perhaps as large as a sixpence, looking like a patch of eczema, with ulceration barely observable on it. The base of this becomes thickened, and then indurated; the surface may cicatrize, leaving only the induration. Some authors admit the imbibition of the virus without previous abrasion.

* Vide Complete Practical Treatise on Venereal Diseases, with Atlas of Plates, by W. Acton, p. 217, et seq., and plates 1 and 2.

In other instances, a sore or excoriation will have healed entirely, when the patient or surgeon may be surprised at the cicatrix becoming gradually indurated until a cartilaginous mass is formed, but confined to the situation of the sore which had previously existed.

In whatever manner indurated chancres may have commenced, their progress is usually characterized by little, if any, pain or discharge. The consistence of the induration seems to increase, as well as its extent, until it becomes like a piece of cartilage of a clear pearly colour; no vessels can be seen permeating it, and in this respect it differs from the surrounding surface. In some of these cases the ulceration will heal gradually; in others, it will increase to a considerable extent, or it may remain stationary, in spite of all our local means to assist cicatrization. If no mercury be given, and the case be allowed to run its course, secondary symptoms will appear in a few weeks, and, after an indefinite time, the induration may abate, and ultimately disappear. If, however, no treatment is pursued, or if friction of this indurated mass accidentally follows, ulceration will occur, depending, as I believe, on stimulating applications, or excessive inflammatory action, or unusual rapidity in the induration, incarcerating, as it were, the distended cellular tissue within the areolæ of the infiltrated dermis, and causing mortification of the part.

When mercury is given in the manner hereafter to be recommended, we witness a very peculiar effect on the induration; the circumference of the indurated mass becomes redder than usual; there seems to be increased action of the vessels; the transparency becomes less and less, and absorption of this interstitial deposit takes place rapidly, particularly if it has existed only a short time. But it does not take place so rapidly as it was deposited.

Complications.—Indurated chancre is attended with fewer complications than most other forms of primary syphilis. As above observed, inflammation is rarely met with interfering with the course of induration. Bubo is an uncommon occurrence, and, when present, is, like the attendant sore, a very chronic affair. One gland may slightly enlarge and continue in that state, but we seldom find it suppurating, unless by the negligence of the patient. One of the most common and tiresome complications is a general or partial thickening of the prepuce, preventing the patient from retracting the fore-skin, thus allowing the secretion to accumulate, particularly if the indurated masses are at the orifice. I have above alluded to the ulceration of the surface of the sore, and need not here, therefore, speak of it.

Lancet, July 25, 1846, *p.* 101.

[Mr. Acton has shewn, that as a general rule, all sores on the genital organs should be treated with nitrate of silver; experience testifies

to the efficacy of this treatment, in preventing the contamination of the system if it be applied within three days; and even after that time in nine cases out of ten, it is to be reasonably hoped, that no secondary symptoms will follow. Still, with all this evidence in its favour, there are circumstances which contra-indicate its use, and amongst the foremost of these, stands inflammation. Mr. Acton observes:]

When chancres are attended with acute inflammation, caustic will be worse than useless; experiments prove that phagedena destroys the virus, and they likewise show us that caustic increases instead of allaying inflammation; therefore, when present, recourse must be had to opium, rather than to nitrate of silver, as I shall attempt to show on some subsequent occasion.

But it is not alone in acute inflammatory chancres that we must lay aside the use of caustic; we should never apply the salt when previous applications have irritated the sores, or we might continue its use *ad infinitum*, without healing the ulcer.

On April 12th, 1846, a gentleman who had previously suffered from chancres, and experienced the benefit of cauterization, had connexion with a suspected female, and observing an excoriation the next morning, himself applied nitrate of silver most plentifully; the eschar fell in twenty-four hours, and, the patient states, a quantity of pus escaped; he thought it necessary to burn it a second time, and applied the caustic freely; in two days, feeling alarmed at the pain and redness, he called on me. A pustule, exactly similar to those delineated as following inoculation in the atlas of my work on venereal diseases, appeared on the penis; the white pellicle was surrounded with an inflamed areola, and there was some pain. I felt pretty well convinced that this was the result of irritation alone. I prescribed water-dressing, and the pustule healed in a few days. Now this is one of a large class of cases where diagnosis is difficult, and which are often seen in private practice, arising from irritating applications. A few days, however, generally clear up any doubts a surgeon may have; for if it be the result of irritation, the pustule heals; if of chancre, the disease loses no time in progressing, and the surgeon has the certainty of treating a venereal sore, instead of one of these simple irritated excoriations, which I have more than once seen submitted to a course of mercury, under the supposition that the patient has a virulent disease.

Another contra-indication to caustic is induration of a sore; the surgeon should never cauterize a genuine Hunterian chancre, or one attended with induration; if he does, he will cause great pain, the sore will become irritable, and gangrene will often follow, as I have observed in several instances. Cauterization of such sores shows great ignorance of the objects and aim of the employment of nitrate of silver, as well as of induration; for as these sores secrete but little, we have scarcely any virus to destroy. If it were our

objeet to destroy the mass of induration, we must have reeourse to a much stronger and deeper caustic than nitrate of silver, such as Vienna paste; but even destroying the induration would be of no good, as experience shows that where it exists, the constitution is already contaminated, and if removed, we should have no criteria to go by of the state of the system, until secondary symptoms break out. The uleeration on indurated sores depends on the hardening impeding the cicatrix forming, and to remove this, absorption must be brought about by mercury, as I shall hereafter show, in speaking of indurated chancres. From these considerations, then, I never employ caustic where there is induration, and I do not find patients complaining as they are said to have done formerly, that destroying chancres with caustie produces secondary symptoms, from driving the disease into the system, a charge it is well to avoid, however impossible sueh a thing is believed to be by well-educated persons.

Lancet, June 6, 1846, *p.* 627.

138.—*Instance of Disease Contracted from a Nursed Child.*—By J. C. Egan, M.D., &c.—[In the second number of the *Dublin Quarterly Journal of Medical Science*, Dr. Egan published some remarks on the subject of the contagious nature of secondary syphilis, and brought forward eases in support of his views; since then another case has come under his observation, which he communicates to the *Lancet* of August 22. It is as follows:]

Mary S——, aged forty-eight, married, and mother of five healthy children; of strictly temperate habits; her husband a man of excellent character; admitted into the Westmoreland Loek Hospital, April 3rd, 1846; states, that about October last, she first took charge of her daughter's child (then one year and a half old) to dry nurse. At this period, there were sores on the verge of the anus of the infant, the mucous membrane of the lips was inclined to peel off, and the tongue was the seat of small white blisters. Shortly after birth, an eruption presented on its body, which had been alternately declining and reappearing up the date of her attendance on it. She likewise states, that she was constantly in the habit of kissing the child during the time its mouth was affeeted, and more than once applied her lips to the sores on the anus. The mother contracted disease from her husband a few months after marriage (now six years), which appeared in sores on the labia pudendi. Since then she has borne five children; the first lived a year and a half, when it died, extremely attenuated from repeated attacks of the disease; the subsequent children, with the exception of the present, were all premature and still-born. About the latter end of December last, the nurse perceived, for the first time, blisters on her tongue, with a fissured state of the lips, which disappeared in the course of six weeks without having recourse to any mode of treatment. During this period, she deseribes herself as "very

dead in spirits," and an unaccountable oppression over her. In a month after the tongue and lips had healed, she was attacked with an inveterate itching of the vulvæ; which was succeded by elevated (condylomatous) sores. At this stage she appears to have undergone an irregular and imperfect course of mercury; the sores healed notwithstanding, but inflammation of the right eye quickly ensued. She was again subjected to mercurial treatment, ptyalism supervened, and the eye regained its former healthy condition. She now remained free from disease for about a fortnight, when within the last ten days the left eye was similarly attacked, and for which she was admitted into hospital. On examination, the external structure of the eye presents a deep scarlet-red colour; the pupil is irregular and indistinct, and surrounded by whitish tubercles; the membrane of the aqueous humour is semi-opaque, giving the appearance of turbidness to that fluid; she complains of extreme intolerance of light, and intense pain in the supra-orbital region; cannot clearly distinguish any object; never had any form of eruption.

Local depletion was resorted to; pills of calomel and opium were prescribed, with the external use of extract of belladonna. It would be trespassing needlessly on your space to give the daily reports of the case; but on the 9th of April ptyalism was fully established, inflammation was reduced, but a dimness of vision remained, which was subsequently removed by blistering and collyria, and she was discharged cured on the 4th of May.

Observations—The foregoing case contains two features of considerable importance—first, it tends to establish the point as to the communicability of secondary syphilis from the child to the nurse; and secondly, it proves that infection may be transmitted to the *dry* nurse, without any apparent breach of surface on the body of the latter. I would wish here particularly to notice what I have elsewhere stated, that it is only where the nurse is engaged tending, not suckling the child, that contamination may be apprehended from mere contact, as in every instance which has come under my observation, in which lactation was being carried on, the nurse enjoyed perfect immunity from disease, until some solution of continuity occurred either in the nipple or adjacent structure. How this process may serve as a safeguard to the constitution, under such circumstances, I leave to future investigators to determine, contenting myself for the present with the mere statement of a fact which, as far as I am aware, has not hitherto been noticed by any writer on the subject. The opinions of the late Dr. Colles are well worthy the attention of those engaged in this important and interesting inquiry; but having on a previous occasion drawn largely on that authority, it is unnecessary here for me to revert to the statements contained in that particular portion of his treatise.

Lancet, Aug. 22, 1846, *p.* 214.

[Dr. O'Connor brings forward the following case of this kind:]

Julia Walsh, a woman of good constitution, the wife of a peasant labourer, both bearing an excellent character, got a child to nurse, which, at the time, was in wretched health, and was observed to have some sores on the mouth, around the anus, and on the scrotum. It was also remarked that the mother of the child had an eruption on her skin, and a sore on her breast. Shortly afterwards, the nurse having perceived a sore on her nipple, and that the rash on the child became more general, went to a quack, who pronounced it to be chicken-pock, which he would readily cure, and gave her twelve pills, which made her mouth sore. Her alarms not being quieted, she remonstrated with the father of the child on her condition. He accompanied her to the man who was in attendance on her, promised to pay him for curing the nurse and child, and at the same time put his own wife under his care; from which it may be inferred that he was of opinion that they were all suffering from the same complaint. Shortly after this, she went to Dr. Ahern, of this city, who at once pronounced that both the nurse and *child* laboured under syphilitic disease. The symptoms which then presented themselves, as appears from his testimony, were an ulcer on the nipple, with a syphilitic rash on the breast, and ulcers at the angles of the mouth. When she presented herself, some time after, to Dr. Bull, she had, in addition, condylomata on the palate and round the anus, with tubercles on the pubes, several of them with yellow ulcerated heads.

In this state she came under my care in the workhouse hospital —where she remained about six weeks—but went home without being quite well, being anxious that her confinement, which was approaching, should not take place in a workhouse. She was soon afterwards delivered of a child, which was covered with a syphilitic rash, and which died shortly after its birth.

Some weeks after the wife first complained, her husband was taken ill. His symptoms were several tuberculated ulcers on the dorsum of the penis, with desquamation of branny scales all over the body, and loss of hair. Of the husband it may be observed, that although he accompanied his wife to the quack, and to Dr. Ahern in the first instance, he never complained of himself, and that when he did feel ill, he made no concealment of his symptoms. A child of Walsh's who had been previously healthy, also got condylomata round the anus and on the palate, which the mother attributed to her having been fed with the same spoon as the diseased child. She never had any symptoms of syphilis but these, and was in other respects in good health.

In looking over Mr. Colles' work on Syphilis, I was struck by the exact resemblance between all the symptoms and facts I have described, and those detailed by him in page 283, with much more clearness and accuracy.

How far this case will bear out the conclusions which he drew from

his vast experience, I shall not attempt to say. But without entering on the question as to whether secondary syphilis is contagious or not, a practical question may be asked.

Is there danger in nursing a child affected with syphilitic eruption? Are we justified in saying that the almost universal opinion is, that there is danger, in such case, of the nurse becoming affected with the disease? These questions may, I think, be answered in the affirmative, even admitting that secondary syphilis is not contagious, as the modern advocates of that opinion assert that primary disease may be reproduced in parts of the body where it could be least expected, as the mouth, or nipples, &c., and this during the existence of a secondary eruption. There is no class of patients in which this is more likely to occur, than in infants, from their attendants passing the towel with which they wash them over every part of their body, which may convey primary disease, if it existed, from one part to another.

Lancet, June 20, 1846, *p.* 691.

[Mr. Acton differs in opinion from the preceding writers, with respect to the contagiousness of secondary syphilis. He says:]

As far as the result can be tested by inoculation, secondary symptoms are not inoculable; within the last few days I have again tested this in the presence of several gentlemen. A man was suffering under tubercular syphilitic affection of the arm; the tubercles ulcerated. With a lancet we scraped off the epidermis on a healthy portion of the arm, and applied a piece of lint, soaked in the secretion, to the abraded surface, and maintained it there for twenty-four hours. Slight irritation, followed by ulceration, came on. This ulcer healed immediately the irritating secretion was removed, proving that the sore depended upon the simple irritation of the secretion, and upon nothing specific, just as an issue is kept up by means of peas, or any other foreign substance.

Without denying the possibility of their occurrence, I have never yet been able to meet with instances which I could assign to contagion of secondary symptoms, and I must hesitate before yielding my opinion, knowing as I do from experience the difficulties that beset the question; they are only cognizable to those who treat syphilis. I give one example which has lately occurred to me. A medical practitioner wished me to see a female, recently married, labouring under condylomata. To prevent family disputes, I desired the husband to call upon me. On examining him, there was no trace of syphilis, primary or secondary; and he then broadly hinted, that since he was married he had heard of his wife's immorality previous to his acquaintance with her: this she subsequently acknowledged. Now, had she been able to infect her husband, most practitioners would have disbelieved the husband's statement, and pitied the unfortunate wife. This case proves what experiments induce us to believe—viz., that condylomata and

secondary symptoms are not contagious; and I must repeat, that hitherto every instance I have seen corroborates the results of inoculation. During the last year a paper of mine was read before the Royal Medical and Chirurgical Society, (reported in the *Lancet* for May), in which a child, hereditarily affected by the father with syphilis, never infected the mother who suckled it; and I have met with similar instances.

Lancet, Aug. 1, 1846, *p.* 127.

139.—*Syphilis.—Treatment with Iodine and Mercury for the dull aching Pains in the Long Bones, &c* —By W, P. Ormerod, Esq.

Simple general pains. In no form of disease is the employment of hydriodate of potash attended with greater benefit than in cases of dull aching pains in the long bones. In some cases marked relief is felt after a few doses of the medicine have been taken. In the majority, some improvement takes place in a few days, and the cases are very rare in which more or less benefit does not arise from it. In the more severe cases of this affection the patients are haggard and weary from pain and loss of rest; they rarely have any marked degree of fever, but often labour at the same time under affections of the throat and skin. The pains under which they labour are dull and constant, with occasionally attacks of severity, especially at night and on the occurrence of any damp weather. The painful parts present rather a degree of fulness than swelling, being covered with a thin layer of firm œdema; so that the naturally flat surfaces of the bones feel somewhat convex, and their sharp edges are blunted. This affection may be accompanied with hard and soft nodes, but often occurs without any affection of that kind. It sometimes happens that mercury, opium, hyoscyamus, and other means, successively fail in affording any decided relief to this affection, and the patient suffers severely until iodine is employed. The hydriodate of potash, in doses of from five to eight grains, administered three times in the day, acts often like a charm, and gives a greater degree of relief than any other means. This relief generally continues until the pains are more or less completely removed, and an increase of the dose beyond twelve or fifteen grains of the hydriodate of potash in the twenty-four hours is rarely required. When iodine fails to afford some earnest of future benefit soon after the commencement of its employment, it is not commonly found that any very great benefit follows its exhibition, either in large doses, or after a long continuance of its use.

With regard to the benefit derived from mercury in secondary affections, the following appears to be the general rule. The scaly eruption, the excavated ulcer of the tonsil, the syphilitic swelling of the testicle, the excavated ulcer of the tongue, the acute ulcers of the edges of the eyelids, iritis, the purulent discharge from the external auditory meatus, and some cases of pains in the limbs,

require the employment of mercury in a decided manner. The greatest benefit in cases of papular eruption, unaccompanied with fever, in those forms of tubercular and pustular eruption which have a tendency to desquamate rather than to suppurate and form ulcers, and also in those cases where numerous small secondary ulcers occur on the body of persons not much reduced in health. The fissured tongue, and the syphilitic ulceration round the nail, are benefitted at times by mercury, but not always. The employment of mercurial fumigation in cases of pustular eruption, phagedænic ulcers of the skin, and foul sloughy ulceration of the pharynx, is attended occasionally with the greatest benefit; but it is a hazardous means, and requires the watching.

Medical Gazette, Oct. 9, 1846, *p.* 629.

140.—*Syphilis and Gonorrhœa.*—[An experienced army surgeon states, that in the course of a very extensive experience in public and private practice, he has never known gonorrhœa, however virulent, to be followed by syphilitic symptoms, and believes that in every case there was a true syphilitic chancre somewhere, most probably in the urethra. When in complication with clap, such sores easily escape the notice of the surgeon. He gives the following case as an illustration:]

A bachelor, in a respectable station of life, and in the enjoyment of good health, contracted gonorrhœa, to get cured of which he put himself under the care of a respectable general practitioner, in a country town. In about six weeks he was pronounced well; but three months subsequently he felt a soreness in his throat, and perceived some blotches on his skin. For this he consulted one of the surgeons to the County Hospital, and upon examination it was discovered that the throat was ulcerated, and the disease was considered to be syphilis in a secondary form. The patient was put under a course of the usual treatment (mercurial,) under which he got well. Having continued perfectly well for five or six months, he got married in the month of September, 1842. In a little better than a year from the date of the marriage, the wife lay in of a healthy child, which has never experienced any interruption of health, and is to this day perfectly well. The wife fell with child a second time, and when about seven months gone, her medical attendant was called in on account of a sore throat, which had resisted domestic remedies. Upon investigating the case with caution, the throat was found ulcerated, and the surgeon had, in his own mind, no doubt but that it was a case of secondary syphilis. From the information that the surgeon could collect, by the most delicate, but, at the same time, most efficient inquiry, he came to the conclusion that the patient had not had a primary sore—besides which she was a person *strictly moral, and above all suspicion.*

Inquiry was then made into the husband's state of health, when the details of the affection before marriage were learned; and it

was further discovered that he was, then, labouring under an inflamed throat, with a sense of dryness and constriction in the fauces, and that there was also a papular eruption upon the chest and neck, invading posteriorly the scalp under the roots of the hair. The husband had never been guilty of any infidelity towards his wife, and was positive that he never had, even before his marriage, any ulcer or excoriation upon the penis, and having been so long well, and free from all symptoms, he could not suppose that he was labouring under secondary symptoms, and would not submit to treatment, trusting that the affection was merely temporary, and would vanish without medical aid. The wife, however, used the remedies prescribed for her, and remained under a mild course of treatment from the 26th of November to the 26th of December, with manifest advantage. On the 5th of January she was delivered of a male child, apparently healthy, and of the full time, or nearly so. On the third day the child was covered all over with a papular purple eruption. A consultation was immediately had with one of the physicians to the County Hospital. The physician suspended his opinion as to the nature of the disease till he paid a second visit; but then he concurred in the surgeon's views, that it was a clear case of syphilis. The child died on the third day from the appearance of the eruptions, The mother's throat, which had been mending under the treatment before her accouchement, began to get worse soon after she left it off; and it was deemed advisable, about a month after her delivery, to put her under a mild course of mercury, A slight ptyalism was produced, and kept up for nearly two months, when a cure was effected. The husband finding that he was getting worse, and witnessing the good effects of the treatment upon his wife, submitted to a similar course of mercurial treatment, and was effectually cured. Up to this time there has been no reappearance of the disease in any form; but the wife, who became pregnant again, lay in of a six months' still-born child, without any assignable cause for such an event. Her health, as well as that of her husband, continues good.

Medical Times, July 25, 1846, *p.* 332.

141.—*Use of Bromide of Potassium in Secondary Syphilis.*

The low price of the bromide compared with that of the iodide of potassium, has induced M. Ricord to substitute that salt for the iodide in the treatment of secondary syphilitic affections. The dose of the bromide is the same as that of the iodide of potassium. It has produced the same therapeutical effects, but more slowly.—*Journal de Pharmacie*, Avril 1846.

Medical Gazette, May 29, 1846, *p.* 972.

142.—*On Syphilitic Affection of the Testis.*—By M. Helot.—[A syphilitic affection of the testis may be distinguished from a gonorrhœal affection by the following circumstances:]

In the gonorrhœal epididymitis, the attack comes on suddenly with the attendant train of inflammatory symptoms; it shows itself during the course of gonorrhœa, or at the moment of its disappearance. On the ecntrary, the commencement of the syphilitic testicle is essentially shronic; it appears, as we above remarked, long after the primary symptoms, constituting a consecutive affection. The gonorrhœal and syphilitic affections are thus two distinct complaints, except where the one terminates in the other; but the course, lesions, and terminations of these two affections show no further relation between them.

In the syphilitic affection of the testis, the organ is, even at the commencement, hypertrophied; in the gonorrhœal form, the testis, on the contrary, commonly preserves its elasticity and its size; the epididymis is principally affected, and if, in exceptional cases, the testis itself participates in the inflammation, an inflammatory swelling follows, quite at variance with the chronic enlargement of the syphilitic complaint. In the gonorrhœal orchitis, the tumor is painful, the skin of the scrotum red, tense, and shining; the cord, when it is affected, becomes painful to the touch. In the syphilitic testicle, the enlargement is most commonly indolent from the commencement to its termination, and pressure with the hand on the testis and cord is unattended with pain.

The anatomical characters of the two affections are equally opposed; thus, in the gonorrhœal affection, it is always the epididymis in which the complaint commences, and in the majority of cases, the body of the testis remains free from disease; the contrary happens in the syphilitic affection of the organ.

[Simple hydrocele can scarcely be mistaken for the syphilitic testicle; it is not, however, so easy to distinguish what has been called by Pott, Boyer, Velpeau, &c., "hæmatocele." M. Helot observes:]

The scrofulous affection of the testicle may, under certain circumstances, be mistaken for syphilitic affection of the testis, and the diagnosis may present great difficulties. Thus, for example, a patient having had syphilis, may be attacked with a scrofulous affection of the testis; what, then, are the characters drawn from the tumor which may tend to clear up the case, and decide whether we have to treat one or the other affection? First of all, in the scrofulous testicle there are two varieties of swelling, one formed by the tuberculous infiltration of the whole organ, the other formed by the development of encysted tubercles, either in the epididymis or in the body of the testis.

We have remarked, that in the syphilitic affection of the testis the epididymis is rarely diseased; in the scrofulous affection, on the contrary, the complaint commences usually in that organ, and extends only to the body of the testis at a subsequent period.

The scrofulous testicle commences by isolated enlargements; but these nodules become chesnut-shaped, very prominent, standing out

in relief, as if attached to the epididymis or testicle. The induration we observe in the syphilitic affection of the testis is almost invariably contained in the thickness of the body of the testis itself. Notwithstanding this character, drawn from the situation of the affection in the epididymis in the scrofulous disease, and in the body of the testis in syphilitic affections,—notwithstanding the form of nodules, which present differences thus marked, still the diagnosis may be very difficult, particularly at the commencement of the complaint. It becomes more easy when the swelling has acquired a certain size; for then, in the syphilitic affection, the induration is complete, the testicle uniformly hard, and the hypertrophy so inconsiderable, that we do not recognise any longer the natural elasticity of the organ. In the scrofulous affection, on the contrary, the nodules, (when they exist,) in becoming more prominent, often lose their hardness; and we meet with the other portion of the organ retaining its natural elasticity. In the tuberculous infiltration of the testicle, the swelling is more regular and rounded, approaching, it is true, to the syphilitic character; but its hardness is less evident: the testicle retains a certain proportion of its natural suppleness, which contrasts strongly with that cartilaginous hardness of the syphilitic affection of the testicle. Moreover, it is rare for the testicle to be infiltrated with tubercules, without the body of the epididymis, at the same time, presenting prominences in different degrees, from a state of induration to suppurative softening. We have seen, in the syphilitic affection of the testis, the cord generally remaining in a healthy condition, or if it enlarges, it does so in a gradual and uniform way, presenting no inequalities or prominences; whereas, in the scrofulous affection, particularly in the advanced stages, it is not uncommon to find the cord studded with tubercles, resembling a bead necklace. Although the course of one or the other affection is similarly chronic, nevertheless it presents differences which may be useful in forming a diagnosis. Thus the syphilitic affection of the testicle is more indolent than the scrofulous, which presents, from time to time, inflammatory accessions, characterized by a sense of tension of pain, which is augmented by the touch. The ordinary termination, by resolution, of the syphilitic affection of the organ, opposed as it is to the suppuration of the scrofulous disease of the organ, is likewise very important in differential diagnosis.

The syphilitic is often difficult to be distinguished from the cancerous affection of the organ. How many tumors of the testis have been removed by the knife, which might have been cured had the true nature of the complaint been suspected. The rapid development in the encephalic tumor of the testis, the considerable size it will attain, its softness, which may often impose on the surgeon, leading him to believe it fluctuative; the unequal resistance it presents, the darting pains which occasionally come on, mark a striking contrast with that uniform hardness, indolent character, and moderate size of the syphilitic enlargement of the organ. The cord in

the eaneerous affcetion is often knotted, hard, and unequal, and we know how uneommon the uniform hypertrophy of the cord is in the syphilitic affection. The engorgement of the glands in the iliac fossa is observed sometimes in the cancerous affection of the testis, but never happens in the complaint we are treating of. Authors, and, among others, Sir Astley Cooper, have deseribed, under the name of schirrus of the testis, a variety of cancer whieh might be more easily eonfounded with syphilitic affections of the testicle, as its development is slower than in eneaphaloid disease, and presents, from its commencement, hard nodules; but these are hard from their formation, and beeome more and more so in schirrous affections, which we do not observe in the venereal testicle. Notwithstanding the eharaeters above given, the surgeon, amid all his doubts, has no other proof than a rational treatment to follow, in extrieating himself from his uneertainty.

[The syphilitic testicle is one of the eonseeutive seeondary symptoms of syphilis; it may be said to border on the tertiary, hence it will require the treatment applieable to these periods.]

M. Rieord is in the habit of eombining the mercurial treatment with the employment of iodide of potash. I consider the eombined use of these remedies better than their administration singly. We have frequently seen the employment of the iodide alone bring about only a slow resolution, whieh the use of mercury has expedited. M. Rieord preseribes one or two pills every night, eontaining five centigrammes, (about three-quarters of a grain) of proto-ioduret of mercury. During the day he gives the iodide of potash in doses of one or two grains in ptisan. It matters little, however, what preparation is given, provided the patient eontinues the treatment uninterruptedly and regularly, and for some time after a complete cure has been effeeted.

When effusion has taken plaee into the tunica vaginalis, it is not usually neeessary to puncture the swelling, or inject the sae. Most frequently this eonsecutive hydrocele disappears of itself, and it is only in cases where the fluid is not absorbed after the cure of the testis that we feel called upon to tap the swelling whieh may ineonvenience the patient, or inject it to effect a radieal cure.

We should not neglect topical remedies to favour resolution, sueh as mercurial frictions on the scrotum, or the application of a begoplaster with mercury, which must be renewed from time to time. Compression by means of Frech's plan with strips of the same plaster will assist in dispersing the swelling. The following is the best we have tried. It is well, before applying the eompression, to evacuate by a lancet, the fluid in the tunica vaginalis, if it be collected in large quantities; seizing the testis with one hand, bind a strip of plaster round the eord just above the testis with the other, forming a ring, to prevent the escape of the testicle, thus avoiding the eompression; then, by means of other straps, we eneirele the body of the organ by subsequent turns, so as uniformly to cover it.

This dressing ought to be renewed as often as the strapping becomes loose.

How far is the mercurial treatment to be pushed? Generally, it ought to be continued some time after the disappearance of every symptom. Nevertheless, however, as in some cases, the hypertrophy seems to be permanent, there is a limit beyond which we should not carry the mercury, so that when we have varied sufficiently the mode of administration, if we find the tumor cease to feel the influence of the remedy, after it has sensibly diminished, and now remains stationary, it will be useless to insist on carrying the remedy further. I terminate this article by saying, that the difficulty of differential diagnosis of tumors in the testicle, and the frequency of syphilitic affection of the organ, ought to render the surgeon very circumspect on the necessity of amputation. And ought we not to follow the wise, enlightened conduct of the great surgeon of the Hôtel Dieu, who put his patients under mercurial treatment even in cases where he had many reasons to suspect the cancerous nature of the affection, from fear of removing by the knife an organ which he might have preserved?—*Journal de Chirurgie.*

Lancet, June 20, 1846, *p.* 675.

143.—*Contraction of the Prepuce.*

[At a recent meeting of the London Medical Society, Dr. Golding Bird alluded to the case of a child, seven or eight weeks old, an out-patient of Guy's hospital. This child had become almost lifeless just after sucking; it was apparently labouring under the effects of a narcotic; it had not, however, had anything of the kind given to it, nor had it sustained a fall, nor was the head so large as to lead to suspicion of congenital hydrocephalus. Dr. Bird adds:]

On enquiring if the child passed water, the answer led to an examination of the prepuce, which was found to be elongated, and had an aperture only of the size of a pin-hole, like a puncture in the intestine. The urine was dribbling out; it was evident that the child had never completely emptied the bladder. Mr. Hilton slit up the prepuce, and all the symptoms were immediately relieved, and soon entirely removed. Dr. Bird referred to a case which he had related to the society some years since,—and which was reported in the *Lancet* at the time,—of a child who fell a victim to a malformation of this kind; and after death the bladder and ureter were found like those of a man who had long suffered from stricture.

Mr. Hilton had seen many cases similar to the one mentioned by Dr. Bird. The greatest benefit resulted from slitting up the prepuce. In this case the benefit was very remarkable, a partial paralysis of the left side, under which the little patient laboured, being quite removed in twenty-four hours.

Lancet, May 16, 1846, *p* 553.

144.—*Case of Hypertrophied Scrotum and Penis; its Removal by Operation.*—By F. H. Brett, Esq., F.R.C.S.—[Mr. Brett's patient was a locksmith, forty years of age. He had suffered from stricture twelve years ago, and for the last four years the urine had been extravasated; the penis had been gradually enlarging for the last twelve months; the scrotum was very much enlarged, and there were several ulcers and fissures leading to short sinuses, from which serous pus could be squeezed; he was naturally very much phymosed. On the 24th of November, 1845, a portion of the prepuce was removed, and a catheter introduced. Incisions were also made into the scrotum, which discharged a large quantity of pus. Compression was then made, which caused occasional diminution of the tumors, but it was impossible to effect a cure without the knife, and the patient's general health having improved the operation was decided upon. Mr. Brett thus describes it:]

One hour previously, seventy drops of laudanum were administered, in order to produce a sedative effect, and to obviate, in some measure, the shock of the operation on the system. The patient being placed on a table, as for the operation of lithotomy, the tumor was gently raised on the abdomen. Two superficial incisions were commenced, in the form of an isosceles triangle, in the perineum, the apex pointing backwards, extending through the integuments. The tumor was then turned down, and by its own weight and pressure suppressed hæmorrhage. A long and deep incision was then made, commencing from the external abdominal ring, and terminating at the inferior part of the right testis. The cord was exposed and isolated, and with the testicle carefully dissected out, and reflected on the abdomen. The same was effected on the opposite side, the operator being most scientifically assisted by Messrs. Lane, Pettigrew, Spitta, and others. A large lateral flap was then immediately formed on each side of the tumor, joining the corresponding sides of the isosceles triangle in the perineum, by a rapid thrust of the catlin. Assistants were in readiness to place their hands on the bleeding surfaces, and suppress hæmorrhage; the superior extremities of these last incisions were joined by one carried under the root of the penis, which organ being drawn up, the tumor was, with all due expedition, dissected off from the root of the penis and perineum. Pressure being still continued, a circular incision of the integuments of the penis above, about an inch and a half in advance of the pubes, was made, dissecting up just so much of the surviving healthy integuments. A rather bold longitudinal incision was now carried to the dorsum penis, taking care to avoid wounding the elongated prepuce, (that part which Nature arbitrarily adapts to her purposes, whether of mucous membrane or skin), and having cleared away this morbid semi-cartilaginous mass, the prepuce was reflected, so as to meet the portion of healthy integument at the pubic extremity, there to be united by suture.

The operation being thus terminated in about ten minutes from

its commencement, the divided surfaces readily admitted of adaptation. Interrupted suture, compresses, and a T bandage, terminated our efforts to relieve the patient from a disease which was a burthen to him. A quart of blood may be stated as the maximum quantity lost, which was chiefly venous. A gum-elastic catheter was introduced into the bladder, secured by a stopper, so that the urine might be carefully drawn off, and none fall on the wounds.

[In three weeks after the operation the patient was nicely recovering, and in a month's time the granulations had surrounded the protruded testicle and nearly covered it.

Mr. Brett published in the *Lancet* of February 28, 1846, an account of this disease as it occurs in the East, and he considers the pathology of this case similar to those he had frequently treated in India; only in this instance the disease was caused by a fistula in perinæo, whereas it generally originates in a local inflammation of a peculiar kind. Mr. Brett's conclusions are confirmed by the investigations of Mr. Quekett, who has submitted the tumor to microscopical examination. Mr. Brett observes:]

In the operations which have terminated unfavourably in this country, under the hands of some of our most eminent surgeons, the fatal result has been attributed either to the shock of the operation or to excessive hæmorrhage. We greatly diminish the danger of the former by a large sedative, and by not sacrificing the organs of generation. The latter danger (excessive hæmorrhage) may be obviated by due precaution, by intelligent assistants, and by expedition, as well as by the position and mode of operation I have endeavoured to explain.

The improvements of the operation over those which have so rarely been performed in Europe, are, I trust, obvious. The genital organs have always been removed with the disease; here they have been preserved: they have been almost invariably found in a normal condition, and healthy integument, as well as prepuce, has been found sufficient to cover these organs.

The operation has not escaped censure, on the following grounds: First, that it was "unnecessary, as that pressure would be found adequate to dispel the disease." To this I reply, that pressure had received a fair trial and failed, and it has never been known to succeed anywhere in these complaints. Secondly, it was said that the patient "would die of hæmorrhage." Thirdly, that "the disease would return." Fourthly, "that fistulous openings would be found to communicate with the urethra." It is only necessary to say, that all these objections have been abundantly disproved by experience in all my former cases, and in this particular instance. The plastic adhesion and cicatrization totally seals up the parts and puts an end to all further development of this benign class of fibrous parasitic growths. The patient was discharged a month after the operation; he returned in another month from his home, and was seen, by several medical gentlemen, in perfect health, and without a ves-

tige of the disease. Need I further add, that he had been abandoned by his wife, from his sexual incapacity, and that he was totally incapable of pursuing his occupation. He is now restored to both; his health is improved, and his organs are sound.

Lancet, July 11, 1846, *p.* 36.

145.—*Treatment of Hydrocele by Alcoholic Fomentations.*

Dr. Pleindoux, of Nismes, relates the following case:—A wine-merchant, of Nismes, had been affected for a length of time with a considerable hydrocele on the left side of the scrotum, and for private reasons requested palliative treatment. A puncture was made on the 11th October, 1844, and more than a pint (*demi-litre*) of water drawn off. Nine months after a second puncture, simply to evacuate the fluid, was made. It then occurred to the patient to envelope the scrotum with a large compress, doubled four times, and steeped in alcohol of 30 degrees. This application, kept in its place by a suspensory bandage, was renewed every evening. The first effect was to produce great contraction of the scrotum. A slight sensation of cold only was experienced, which remained some minutes. These fomentations were continued forty days, and the patient was completely freed from his hydrocele, which has not returned during eighteen months.

Having observed this fact, M. Pleindoux repeated the application on the first occasion which presented itself, and has now done so four times successfully.—*Encyclographie Médicale*, Avril, 1846.

Monthly Journal of Medical Science, June, 1846, *p.* 436.

146.—*Cure of Hydrocele.*

Dr. Alfred A. Harvey, of Bristol, has for thirty years successfully employed the following treatment in hydrocele, obtaining a radical cure without injection. His mode of treatment is as follows:—First, discharge the fluid with a trocar, or pocket lancet, and then apply a warm vinegar poultice all over the scrotum, in order to bring on inflammation, which generally takes place in a few hours, and becomes painful. When sufficient inflammation has been excited, remove the vinegar poultice, and apply a bread and milk poultice, in a short time the pain and inflammation generally subside, and the cure is completed. Give a few smart doses of purgative medicine.—*Lancet.*

Medical Gazette, June 19, 1846, *p.* 1089.

147.—*Case of Rupture of the Bladder.—Recovery.*—By W. Chaldecott, Esq.—[There are few cases of recovery from rupture of the bladder on record. The following case occurred in the practice of Mr. Chaldecott. At midnight, on the 7th of April last, a very respectable, temperate, and healthy man, after passing two or three

hours at a coneert, ran across the street to empty his bladder; he eame in contact with a post, the top of whieh hit against the lower part of the abdomen. Mr. Chaldeeott observes:]

I saw him about half an hour after the aeeident. He was faint, and suffering severe pain over the stomaeh and belly, with desire but no power to pass his urine. I ascertained that none had escaped into his clothes, and my suspicions as to the nature of the mischief, were eonfirmed by the circumstanee of nothing escaping through a full-sized catheter whieh was passed easily and completely into the bladder. He was plaeed in bed, and hot fomentations were used to the belly until re-action took place, with which eame inerease of pain over the stomaeh and abdomen. Twenty leeehes were also applied; and I now passed a gum catheter, but with the same unsatisfactory result as before, not a drop of urine escaping through it. I wished to have left the instrument in the bladder, but to this the patient strongly objected, and I urged it the less from some apprehension that in his restless movements the point might be forced through the wound in the bladder; the eatheter was therefore passed every three or four hours, although up to two o'elock p.m., fruitlessly.

[The friends of the patient were apprised of the extreme danger of the case, and Mr. Key was called in. When he arrived, sixteen hours after the accident, there were most deeided and alarming symptoms of peritonitis; the belly was painful, swollen, and tender; pulse rapid and feeble, and the countenanee anxious. A eatheter was passed, and nearly an ounce of bloody urine was drawn away. Mr. C. observes:]

At ten o'cloek, I gave him two scruples of liquor opii sedativus, whieh after a few hours produced some comfortable sleep; and about four hours from the time of Mr. Key's visit I again passed the eatheter, and drew off about four ounces of elear urine. From this time, the pain, swelling, and heat in the stomach and abdomen gradually lessened, and it was evident that the bladder now held, as on each introduction the catheter brought away clear urine.

From this time until the 13th (that is, the sixth day from that on which the accident happened), all went on well, exeepting that a smart attack of gout oceurred on the 10th, although the patient had never before suffered one; but on the 13th, from a strong desire to become independent of the catheter, he made straining efforts to pass his water, and he had scarcely passed a tablespoonful, when he felt (to use his own expression) something give way, and a burning pain all over his stomach and bowels, as if boiling water had been poured over them; and the same symptoms of faintness and distress occurred as when the aeeident first happened.

I saw him within a few minutes of this re-opening of the wound of his bladder, for I eould not doubt but such had been the eonse-

quence of his attempts to pass his water. On using the catheter, not more than a teaspoonful came through the tube. He had now again the symptoms of peritonitis, with the addition of incessant sickness. The same plan of treatment was again adopted—viz., fomentations, leeches, and a full opiate with calomel.

[In about four hours after, on the introduction of the catheter, urine was found in the bladder; and by passing the instrument for a fortnight, amendment gradually occurred; a second attack of gout came on, probably from the absorption of the urine into the system. Mr. C. makes the following observations on this case:]

The manner in which the accident happened, and all the circumstances and symptoms which followed it, were to me conclusive of the nature of the mischief. If anything could suggest a doubt about the rupture of the bladder, it was the very circumstance which makes the case remarkable—namely, the recovery. But to one who watched the case, no such doubt could occur; since it must be recollected that the bladder was known to be full at the time of the accident, no urine escaped into the clothes, nor did any come through the urethra for more than eighteen hours after, and then only about an ounce, mixed with blood. If, therefore, it did not escape into the cavity of the peritoneum, what else could have become of it!

This case may range with many, in proof of what severe injury the peritoneum may sometimes sustain, and the patient yet survive. Indeed, out of the evil of peritonitis, which usually renders this accident fatal, came the good of such an effusion of lymph, as no doubt glued the bladder where wounded to the contiguous viscera.

The fact of gout occurring upon the absorption of the urine which first escaped into the peritoneum, and its aggravation upon its second extravasation, is interesting as connected with the pathology of that disorder.

Provincial Medical and Surgical Journal, July 22, 1846, *p.* 333.

DISEASES OF THE SKIN.

148.—ON PORRIGO, &c.

By James Startin, Esq., Surgeon to the London Cutaneous Institution.

[This gentleman has lately delivered a course of lectures on cutaneous affections, which are highly interesting and practical. We

would recommend a more detailed reference to them than we have here space to give. We have, however, abstracted some of the most practical remarks on a few of the most troublesome diseases which so often thwart the best attempts of the medical man; and first on the subject of porrigo.]

Porrigo may be defined to be a form of contagious cutaneous disease, occupying chiefly the hair follicles, and characterised by a simultaneous, or successive eruption of pale, straw-coloured favous pustules, concreting into yellowish or brown cellular or cup-shaped crusts, which the microscope determines to consist of pus globules, and a peculiar vegetable cryptogamous growth, by the seeds or sporules of which the contagion is propagated. When these crusts are removed, in a chronic form of the complaint, a red, granular ulcer is exposed, presenting an irregular surface and somewhat circular form, which quickly becomes covered with a new incrustation; and this disease is most commonly found on the head and face, but any part of the body may be affected.

It will be perceived that this definition will not comprehend many of the forms of skin disease, which have been classified by Willan and his followers under the head of porrigo; but the fact is, this excellent author comprehended nearly every disease of the scalp under that appellation, whereas the porrigo furfurans, the P. scutulata, the P. larvialis, and the P. decalvans, belong to other affections of the skin, or, at any rate, the definition of porrigo must be completely altered if they are to be included under its characteristics; and psoriasis, pityriasis, eczema, impetigo, and lichen would then be excluded from infesting the scalp, as those varieties of porrigo must be referred to one or other of these diseases, with the exception of the last, or P. decalvans, which must be classed under maladies attended with baldness, arising from diseases of the hair follicles or bulbs, which, under the term alopecia, I shall defer for future consideration.

Porrigo may attack any age or part of the body, but it is most incident to youth; from its contagious nature the rich and the poor are equally liable to be its victims, whilst, as might be supposed from its origin, it is attended by no constitutional disturbance, at least in its earlier stages, but in habits of scrofulous or syphilitic diathesis, it may often be the exciting cause of constitutional derangements. I propose to consider porrigo as divided into three forms, which are called P. simplex or favosa, P. capillo-crustata, and P. ulcerosa; and the disease may be local or general, and manifest itself in the varieties termed sparsa, figurata, and inveterata. The first species, porrigo simplex, is the P. favosa of Willan; it consists in a scattered eruption of large, flattened, yellow pustules, which break on the slightest force, and give vent to a semi-fluid matter which rapidly concretes into loose cellular scabs, of a greenish yellow colour, surrounded with a slight blush of inflammation, as shown on the models, in one of which the disease is in the scat-

tered, and in the other it is shown in the figured or grouped variety (the P. scutulata of Willan.) This complaint is most common in children, less so in adults, and very rare in advanced age; more or less irritation always accompanies the affection, and the constant pricking is apt to irritate the absorbents of the cutis, and occasion swelling and inflammation of the superficial lymphatic glands, which sometimes ends in suppuration. You will perceive the appearance the disease presents on the face, and also on the scalp, when the hair becomes matted together and forms an appropriate nidus for pediculi, which seem very constantly to rejoice in such quarters. It is supposed that the very faint and peculiar odour arising from this and other species of porrigo (which is more like that of mice than anything else, at least to my sense of smell), gave the name of porrigo to the complaint, from porrum, a leek or garlick; but this I believe to be fanciful, and rather think the Latin word, porrigo, to extend or spread about, will furnish a more reasonable derivation, It is not uncommon to see whole families suffering from porrigo simplex or favosa, and I have known nearly every individual in a school of young children thus affected; the irritation is sometimes so great in these young subjects, that a feverish state of the system may be provoked—this is particularly the case in scrofulous habits, and in ill-fed and badly clothed individuals.

The porrigo capillo-crustata is the porrigo lupinosa of Willan; it is beautifully exemplified by the cast to which I direct your attention, which you will perceive is characterised by the formation of dry circular scabs, of a dirty yellow colour, set deeply in the skin, with elevated edges, and a central cup-like depression, containing, as remarked by Dr. Gruby and others, the seeds of contagion in the form of sporules, produced from minute microscopic vegetation. This disease I have in several instances seen in parents and their offspring, not, however, as stated, from a "contagious," but a congenital cause; indeed, were I to state my own conviction as regards this species of porrigo, I should most distinctly disavow its contagiousness under any circumstances that have fallen beneath my notice. These crusts, you will observe, seldom exceed the size of the end of the finger, and they are irregularly circular rather than round; their first appearance is manifested by small clusters of favi, which soon commence the scabbing process, and in the advanced stages of the disease, an ulcer which has destroyed the roots of the hair, and produced an incurable baldness, is seated below the scabs. Any part of the body may be attacked with this species of porrigo, which, when advanced to its chronic stage, forms the next species; that I have called P. ulcerosa, in its nature not materially differing from the malady last described, save that ulcers filled with red uneven granulations, discharging a thick glutinous pus, are intermingled with the cup-shaped crusts. I may mention, as regards diseases of the scalp, that the porrigo scutulata of Willan is, in fact, impetigo figurata affecting that part of the body, as also

for the most part is P. larvialis, an impetigo scabida, affecting the face, though it may also be eczema crustatum, whilst P. furfurans may be eczema furfurosum, or pityriasis, alphos, or rubra; hence I must refer to what I have stated when speaking of these diseases for the treatment and cure of these last-mentioned so called porriginous affections, yet the same rules may commonly guide you in the cure of all these maladies, whether belonging to the genus porrigo or any other; in fact, they may be said to be the connecting links in the chain, and, consequently, require no special treatment, but rather an adoption of general therapeutics, which may be equally applicable applicable to both disorders. The first procedure I would dwell upon as most necessary to success (I speak of course from my own experience), is to avoid all unnecessary irritation; do not use soap, or apply cold lotions, or poultices, or narcotics, that by their absorption may occasion fatal effects, as tobacco, &c. Do not shave the head, but use scissors, cutting the hair as close as possible, and use all applications without force or friction, following the grain of the hair, and extract with the forceps those hairs only which are loose, and can be removed without pain. The directions I am in the habit of giving are as follows:—Soften the crusts, if necessary, by applying flannel wrung out of water as steaming hot as possible, without scalding or injury to the head, till the hair can be cut short with scissors, so that the root of every hair may be visible without touching the parts; wash the head with half of the yolk of a fresh egg and tepid water; dry it with a soft cloth, and anoint with an ointment adapted to the case, which, in porrigo, should be a sulphureous application; in impetigo the iodides of mercury or of sulphur; in pityriasis calomel, white or red precipitate of mercury; and in eczema the bisulphuret of mercury, and sometimes the black oxide of manganese; all these ingredients ma be combined with creosote, with camphor, &c., as well as variously intermingled, bearing in mind that the proportions of each article must not exceed ℈j. to ʒj. of lard, which is better than any oleaginous substance of which I have made trial. Of course the internal treatment must correspond to the nature of the particular affection, its stage, and the constitutional symptoms manifested. It will also be advantageous that the patient wear a light linen or silk cap, which is by no means to be rendered impervious to perspiration, but to be of a kind that can be washed daily; the lining of hats, bonnets, &c., must also be frequently cleansed and renewed. If these recommendations be attended to, I can assure you from my own experience, that a complaint which ordinarily lasts for years may be subdued in as many weeks or months.

Medical Times, June 20, 1846, *p.* 234.

[Medical writers, of all ages, have found some difficulty in curing this peculiar form of eruption, but we are glad to find that Mr. Startin has been more successful; he first ascertains the exciting

cause, and then applies those local and general means which increase the cutaneous circulation, viz., hot air bath, with or without sulphur; chalybeates combined with mineral acids, vegetable bitters, or iodine. He considers arsenic and mercury unnecessary, unless the state of the liver or other viscera indicate their use: he recommends a mild nutritive dietary, with such alcoholic stimulants as the stomach may require for producing healthful digestion: he considers vegetable acids, antiscorbutics, so called, and the common diet drink, worse than useless, nearly excepting even sarsaparilla.]

The external local treatment of acne is not the least important and must be regulated entirely by the stage and condition of the disease. In its commencement, when a loaded state of the sebaceous follicles is the most prominent symptom, moderate frictions with the flesh brush so as to keep open the pores, and the extraction by pressure, of the larger collection of sebaceous matter, (the outlet of the follicle being dilated with some pointed but not too sharp instrument), will be required; whilst a weak spirit lotion and the use of oatmeal, instead of soap may be enjoined. As the disease advances, and the suppurating points are numerous, large, and painful, the vapour douche on the face, mercurial ointment, with camphor, white precipitate with camphor, or the *Topique contre acne* of the Hopital St. Louis may be recommended: the latter is composed of slaked lime ʒi. zinc ointment ℥i, and camphor ℈i. From fifteen to thirty grains of the ioduret of sulphur to an ounce of lard is also a useful application, as is a weak solution of bichloride of mercury in milk of bitter almonds, or thin quince-seed mucilage. The following lotion, not to be found in books, you will find occasionally very efficient: hyposulphite of soda, ʒj. to ʒij., sulphate of alumina, ʒj. to ʒij. rose water ℥viiss. cologne water ℥ss. for a lotion, to be used by washing the part with a linen rag twice or thrice daily. Of course these proportions are not applicable in every case, but the composition is very useful in removing the unpleasant yellow stains of the cuticle as the acne declines, and it is perhaps more applicable to acne rosacea and pustulosa, than to the other varieties of the disease, as it always relieves the attendant itching. There are, perchance, few complaints which have at one time or other, produced so many nostrums as those under our consideration, and therefore I must refer the curious in such matters, to the authorities who treat on these occult subjects; but I may inform them, *en passant*, that unless the nostrum be used with judgment, it is quite as likely to deceive as to relieve, not only in acne, but in every other cutaneous or general ailment; though the same remedy, properly and seasonably applied, may be amongst the most useful and beneficial.

It sometimes happens that we may have succeeded in the removal of acne, particularly acne rosacea, but that a degree of redness remains on the end of the nose, or on one or two spots on the cheeks, which, on examination, is not found to be inflammation,

but a dilated state of the minute cuticular vessels; there are two ways of getting rid of this disfigurement, both of which I have constantly found successful; when the vessels are very small and numerous, not appearing to be nourished by conspicuously large trunks, the best plan is to paint them over very lightly with nitric acid, of the pharmacopœia strength, which is to be immediately blotted off with bibulous paper; by this means a blister is raised, and the cuticle detached after a few days, when it will be found that the morbid state of the capillaries has disappeared, or that they have so much contracted, that a second application at the end of a fortnight is all that is required. The acetum cantharidis may also be used in a similar manner, though it is not so effectual. The second method has the same object in view, though the mode of its accomplishment is rather different, and it is only applicable when the red portions of integument appear to be maintained by the influx of several larger capillary trunks—a morbid condition, which at the end of the nose is exceedingly common. The plan I adopt in such instances is to divide each trunk in succession with the point of a fine lancet, and as the blood flows very freely, I restrain it by means of a small ring of steel or silver, which is mounted on a stem, an inch or two in length, and fixed into a handle at right angles; by this means I can as it were insulate the little wounded point, and arrest the hæmorrhage, whilst the blood can be sponged away and the incision exposed, so that a piece of lunar caustic, the size of a grain of sand, can be introduced into it, by means of a probe with a flattened extremity, on which it has been previously made to adhere; this at once stops the bleeding, and obliterates the vessel, whilst it produces no disfigurement, beyond a temporary black spot that may be covered with court plaster, or the blackness may be removed. by wetting it with a solution of iodide of potassium; I can assure you I have cured numerous red noses by this simple procedure,—which I may mention is applicable to the removal of small nævi and the congenital red marks called *Arenœ* (from their resemblance to a red spider, with its legs outstretched.) The small mounted ring I am now holding, and which I have ventured to call "*The Ring Styptic*," was made by Lings, of Jewin-street; this little novelty in surgical apparatus, you will also find a most useful agent in arresting bleeding from leech-bites, until a grain of caustic can be accurately applied as already mentioned. I have also used it with advantage in removing cutaneous tumors of various kinds, for surrounding a troublesome bleeding artery till it could be secured; the size of the ring may be varied, but I prefer it not larger than a quarter of an inch in diameter for general purposes; but I can imagine such a contrivance useful under a variety of circumstances requiring surgical interference, which it would be quite out of order to discuss at this moment—amongst such are deep wounds of arteries, whether the result of accident, injury, or surgical operation.

Medical Times, Aug. 1, 1846, *p.* 346.

On Sycosis—[Sycosis, says Mr. Startin, has its site in the sebaceousfollicles of the face and head, which are perforated by the hair of the beard, whiskers, eyebrows, or scalp, and unattended with any necessary derangement of the general health.]

Sycosis has been considered by most writers of authority as a pustular disease, yet were it to be so considered, it would not be distinguishable from impetigo, or porrigo, affecting the same part of the body. I am therefore inclined with Bateman, to regard tubercles, as in acne, to be its more characteristic signs; and would consequently define sycosis as a non-contagious eruption of inflamed red tubercles or vari, resembling those of acne occurring on such part of the face and head as are covered by hair (the precise seat of the disease being the sebaceous follicles permeated by the hairs). These tubercular spots may vary from the size of a grain of mustard seed to that of a pea, and may be confined to one portion of the beard, whiskers, eyebrows or scalp, or be disseminated very generally through these parts; wherever situated, they speedily suppurate and produce a small yellow pustule, which is usually transfixed by a hair passing through its centre. These pustules break, coalesce, and discharge a sanious yellow secretion, which attaches itself to the hairs, so as to form greenish or sienna-coloured crusts; beneath which, in inveterate varieties of the disease, ulcerations are occasionally found; and it is observable in nearly every example of sycosis, that tubercles, pustules surrounding the hairs and incrustations, are to be simultaneously witnessed.

When the hairs plucked from a pustule of sycosis, are examined by the microscope, the extremity which was inserted into the skin is found covered with a pulpy matter, extending over the whole portion which was beneath the cuticle. I have not, however, so completely investigated this appearance microscopically, as was my intention before offering you these remarks; I trust, notwithstanding, to find leisure to do so shortly, and will then furnish you with the results.

It will be perceived from this definition, that acne differs from sycosis only in the implication of the hair follicle and bulb in the latter disease. The period of life is also similar to that in which acne, in forms of rosacea, and indurata, is commonly observed; namely, from twenty-five to fifty-five years of age. The subjects attacked are also similar, no condition being exempt, and irregular livers or intemperate persons being commonly its victims. In females, the disease is only witnessed on the eyebrows and scalp. When existing on the chin and cheeks, if this ever be the case, it is not distinguishable from acne rosacea, by any characteristics with which I am acquainted. By a reference to the chart, you will perceive I have divided sycosis into four species, which, indeed, are but so many stages in the complaint; yet, as in other instances of cutaneous disorders, I have thought it well to institute this subdivision, that the exact period and aspect of the disease might be

characterised, whilst the memory might be stored with its ordinary manifestations. Thus I have marked the genera of sycosis, as S. simplex, which comprehends the tubercular erythematous condition of the eruption; S. pustulosa, when pustule are most evident; crustata, when scabs or crusts are most conspicuous, and ulcerata, for the rarer instances, where ulcerations may present themselves. The divisions are according to the position of the disease on the beard, or other parts of the head, named after Bateman and others, menti and capillitii; whilst the varieties relating to the form or continuance of the complaint, are entitled, sparsa, confluenta, and inveterata.

According to my own experience, sycosis commences, three times out of five, on the upper lip, immediately beneath the nostrils, by a raised tubercular erythematous swelling, which is attended with pain, heat, and pruritus, and soon becomes covered with red elevated points that end in small yellow pustules, which have a hair in the centre. The friction to which the patient usually subjects the part, and the effects of the heated and perhaps acrid breath, constantly passing over them, soon produce an extension of the eruption to other parts of the beard. The skin meanwhile assumes a deep red or violet tint, which is much increased by the use of soap and the razor, and the pustules multiply, till the whole hairy parts of the face, and more or less of the scalp may become affected. In other instances, this disease appears to commence in a similar manner to the above on some other part of the face, or it may, like acne, appear simultaneously on all the situations occupied by the hairs; while true acne exists on the cheeks, nose, and forehead; as the sycosis advances, considerable thickening and induration of the cellular tissue, beneath the skin take place, whilst the skin itself is much hypertrophied, so as to present the lobulated appearance also observed in acne rosacea.

Modifications of this complaint from a syphilitic taint, or scrofulous diathesis, are of frequent occurrence, and will be hereafter separately mentioned.

Sycosis has been considered, even in modern times, a contagious disease, but this I have no doubt has arisen from its accidental complication with some other contagious cutaneous affection, as scabies or porrigo; with the latter of which complaints it is also not infrequently confounded—but the presence of tubercles, as in the models before you, and the origin and progress of the disease, will commonly furnish a sufficiently correct diagnosis. I am not aware that seasons have much influence in the production or development of sycosis; the malady is very prone to remissions and exacerbations and the periods of the year which witness such occurrences, vary in different individuals afflicted with the disease. Tubercular syphilitic eruptions, and the disease called Ecthyma, which we are about to consider, have some faint resemblance to sycosis, when they attack the face, but the seat of these affections is not in the hair follicles, nor does the root of the hair usually manifest the same

morbid changes when it may happen to be implicated; besides, those eruptions are rarely, if ever, confined to the only sites occupied by sycosis, but are to be found in various other parts of the body never infested with the complaint under consideration. The causes producing sycosis are even more obscure than those enumerated as influencing the eruption of acne, yet in some instances they are undoubtedly the same, and may be distinctly traced to disorders of the digestive or chylopoietic viscera. The complaint is frequently very rebellious, and has been considered by nearly all dermatologists to resist every kind of treatment, sometimes ceasing spontaneously after a few months' duration, but more commonly having a protracted existence for years, which, in a great measure, as observed by Plumbe, is owing to the local irritation of the hair, acting like a foreign body in the pustules, and continuing and propagating the morbid inflammatory action constituting the disease. You will perceive, from what I have now said, that I agree with the author just mentioned, in his observation "that the existence of hair on the part, and its consequences in aggravating the inflammation, form the only difference between sycosis and acne." (*Plumbe Practical Treatise on Diseases of the Skin. p.* 39, *et seq.*) With this view of the disease, I can only have one addition to make to the treatment I recommended for acne, particularly for the species known under the designation of A. Rosacea; and this is, that as the hairs constitute the only distinction between one affection and the other, it becomes a rule, as conclusive as it is practically useful, that they should be extracted by a forceps from all the inflamed vari as fast as they appear, and thus the maladies will be rendered identical, and require only a similar treatment. As this operation is not only tedious, but painful, requiring also daily attention, it can scarcely be accomplished at once, when the disease is extensive, or when, as is often the case, it is accompanied with much incrustation and matting of the beard: it is better, in these instances, to wash and bathe the parts freely with yolk of egg and tepid water, and to use the convex-bladed scissors to shorten the beard or hair, and remove it with the adherent incrustations, when a small portion can be daily placed under the operation of the forceps, until every hair growing upon the inflamed portion of integument is scrupulously eradicated. Fomentations of decoction of mallows or poppies, of linseed, or of warm water, in which a little sulphur and bran have been boiled (in an earthen vessel), are very serviceable, both before and after this operation, and I would recommend the sulphur-vapour douche as a most valuable accessory.

This bath can be readily applied by means of any contrivance, at the end of the steam-pipe, which will exclude the nose, or, as is the preferable mode, the whole face may be subjected to the sulphurous vapour, if the nose be provided with a tube for inspiration. With regard to the prognosis of this troublesome, painful, and disfiguring complaint, I must again venture to place my own expe-

rience, and the results attending the practice at this institution, at variance with the observations of the authors, who have ranked acne and sycosis as amongst the most obstinate or incurable of diseases of the skin. By paying attention to the extraction of the hairs, to the use of the scissors instead of the razor, and to washing and anointing the parts, after the manner recommended for acne in my last lecture (the use of the lancet and cauterization being also occasionally required), and the internal treatment directed as then advised, I have often succeeded in curing sycosis of twenty or thirty years' duration, in as many weeks. If the cure has not been perfect, in all instances, and if relapses have occurred from time to time, as in acne, yet do I believe that this disease is much more under the control of the medical art, than many others which have no corresponding character for obstinacy and duration.

[The treatment consists of plucking out the hairs with a pair of forceps, and the application of a *mildly stimulating ointment* composed as follows.]

White precipitate of mercury gr. xv., strong mercurial ointment, ʒj. Liquor of acetate of lead ʒss., Recent pure palm oil ʒvj. This made a smooth cream-like application which suited the parts very well. To combat the general disorder, brisk acidulated saline purgatives were administered, which, when the desired effect was produced, were combined with a chalybeate.

[Also daily ablutions with the yolk of an egg and water, until the cure is effected.]

In one very severe case the disease had extended to the forehead, and all the hairy parts of the face, and so much hypertrophy existed in many of the diseased parts, that the disfigurement was hideously great: the upper lip was quite lobulated, and a stiff yellow beard grew out of the surface covered with fungoid-looking granulations that oozed a muco-purulent secretion. I had more leisure at that period than now falls to my share, and I spent many hours at different times in removing the hairs from this diseased mass, and in opening the tubercles when suppuration could be detected, anointing him with my own hands; in short, in carrying out the principles I have detailed. He took iron in various forms, but received the most marked benefit from the iodide internally administered, and iodide of sulphur externally, in the form of ointment (15 grains to the ounce of lard,) by which conjoined means in two or three months he was perfectly freed from his disease, save that a few of the eye-lashes seemed to have been permanently destroyed.

Medical Times, Aug. 8, 1846, *p.* 369.

On Urticaria.—When urticaria, in any of its forms or stages, can be traced to the ingestion of any substance, the removal of the offending body by emetic and purgatives, is the evident indication; on

the other hand, when it is symptomatic of visceral disorders of any kind, these must claim our attention; and lastly, when the disease may be regarded as idiopathic, and no cause can be assigned for its appearance, its cure is to be attempted upon the principle I have recommended where the derangement of the cutaneous circulation has been productive of other maladies of the skin; for this end my experience has pointed to three remedies which have usually proved efficacious—these are, bleeding when the pulse affords no counter-indication; colchicum combined with magnesian aperients and iodide of potassium. In a few rare instances where the malady has lingered and tormented the patient *for years*, I have had recourse to large doses of liquor potassæ, and small ones of Fowler's solution, with good effect; but this remedy is only admissible in these cases, and would appear to aggravate the acute manifestations of the disorder.

Medical Times, Sept. 12, *p.* 464.

149.—*On Porrigo Scutulata* (Willan).—*Herpes Tonsurans* (Cazenave).—By J. Erichsen, Esq.—[The following are the researches of Gruby on the disease called, by Willan, P. scutulata, and by Cazenave, Herpes Tonsurans.]

On examining under the microscope a portion of hair, says Gruby, taken from one of the patches of this disease, we find that its tissue is filled with sporules, which are most generally round, but sometimes oval, transparent, colourless, smooth, and filled apparently by a homogeneous substance. These cryptogami take their origin in the interior of the root of the hair, in the form of a group of rounded sporules, from which beaded filaments gradually develop themselves parallel to the longitudinal axis of the hair, ascending in a straight line.

In proportion as these cryptogami develop themselves in the interior of the hair, this becomes opaque, greyish, and dry, increasing in diameter, but losing its elasticity and cohesion to such a degree, that it breaks with the slightest force. Most usually the hairs break off at a distance of two or three lines from the surface of the scalp; the line of fracture is never clean, but always jagged and uneven, leaving a tuft of filaments that resemble closely a camel's-hair brush.

Occasionally the hairs are broken off before leaving the follicle, the aperture of which becomes obstructed by indurated sebaceous matter. This sebaceous matter, Gruby remarks, being pushed forwards by the growth of the hair, forms a small semi-transparent or opalescent elevation, composed of diseased and softened hairs, indurated sebaceous matter, and epidermic scales, presenting an appearance that has often been confounded with a vesicle or pustule.

In proportion as the cryptogamic vegetations cease to be developed in the interior of the hairs, these become more and more transparent, less grey, and more resistant, until their normal appearance is completely restored.

The cryptogami that are met with in the porrigo seutulata (tinea tondans, &c.) differ so remarkably from those that occur in the porrigo decalvans (alopecia) in seat, in mode of development, and in their relation to the tissue of the hair, that they cannot be confounded together. The cryptogami of porrigo scutulata are composed solely of large round sporules, arranged side by side like a string of beads. These are situated in the interior of the hair, and usually take their origin in the root, the exterior of the hair being unaffected.

The cryptogami of porrigo decalvans (alopecia), on the contrary, are characterised by having a number of curved or undulating branches with small sporules, attached to their sides. They are likewise situated on the exterior of the hair, round which they form a complete sheath.

[From these researches it appears that the name given to this affection by Cazenave is improper, since there are neither pustules nor vesicles essentially connected with it: they are merely accidental, and may or may not be present. Its contagious character is indicated by the cryptogamic vegetations described by Gruby. When this disease occurs where there is a family of children, it is important to be able to diagnose it in its early stages, so that its further progress may be arrested. There are three diseases with which it may be confounded, viz. fevers, alopecia, and pityriasis of the scalp. We should always bear in mind that under no circumstances is there ever in porrigo scutulata any appearance of vesicles or pustules, except as the results of accidental irritation. What has been mistaken for them is indurated sebaceous matter and epidermic scales. Willan fell into this error, as is evident from plate 2, in his treatise on skin diseases. Cazenave has described vesicles in this disease, but from the researches of Gruby it is evident he is also in error. Mr. Erichsen observes:]

Gruby is correct in describing the disease as being characterised by the presence of circular patches covered with a dry, mealy, white powder, and attended by a breaking short of the hairs; as being indeed, a perfectly dry disease.

Porrigo seutulata, then, makes its appearance in the form of a small circular patch, of a tolerably regular form, distinctly raised towards the margin by an accumulation of epidermic scales. The hairs covering the patch are thinned, irregular, and loose, being readily detached when pulled upon; and after a time they break off at a short distance from the scalp. There is usually a good deal of itching and irritation about the affected spot. On the head being shaved, the patch will present a slightly red and inflamed papulated appearance. The disease is, in this stage, perfectly dry, and presents no appearance whatever of vesicle or pustule. If, however, it be much irritated, it will lose this simple circumscribed form, and will put on a much more inveterate character. The scalp will become glazed, red, inflamed, and covered with loose epidermic

scales; it will be denuded of hair, and may become studded with impetiginous pustules, containing a thick, glutinous, yellow matter. These pustules never make their appearance but at an advanced stage of the disease, as a secondary affection, usually the result of the irritation to which the scalp has been subjected: many cases run their course without any appearing.

At the same time that the disease presents this character on the scalp, it is very common to notice similar circular, red, scurfy patches on the forehead, neck, temples, back, and arms. These have been confounded by Bateman and others with herpes circinnatus, and have consequently been supposed to differ from the true contagious ringworm of the scalp. Their real character was, however, long ago pointed out by Plumbe, who showed clearly that they were precisely of the same nature as the patches affecting the scalp, "the apparent difference being solely the result of the mischievous influence of the hair," and who, in proof of this, relates the case of a lady, "who, from two of the circular spots on the arm, inoculated one of her children with the genuine ring-worm of the scalp, the disease afterwards affecting several other children of the same family." The precise converse of this has very recently fallen under my notice in the case of a lady who contracted one of these "circular red scurfy blotches" on the back of the hand, from a relative who was labouring under true porrigo scutulata of the scalp.

If the characters that have just been given as distinctive of porrigo scutulata be borne in mind, its diagnosis from favus, the porrigo lupinosa of Willan, will not be attended with much difficulty.

In favus there are always, even in the earlier stages, a number of circular, cupped, yellow, or yellowish-grey incrustations; at first small, but after a time acquiring a larger size, and always traversed by a hair. These crusts are always most distinct, and cannot be confounded with the patches of porrigo scutulata, on which, as it has already been stated, there are no incrustations. Favus, likewise, is an exceedingly rare disease in this country, whilst porrigo scutulata is of common occurrence. With alopecia circumscripta, the porrigo decalvans of Willan, there is perhaps more danger of confounding the disease now under consideration. The smooth irregularly-shaped perfectly bald patches of the one may, however, be readily enough distinguished from the circular spots, covered with broken hairs and white powdery scales, of the other affection. From pityriasis the diagnosis of porrigo scutulata is likewise very easy, there being no tendency in the former disease to a breaking short of the hairs, or for any baldness, even of a temporary character, to result.

In no disease of the skin is the treatment, in most instances, attended by less satisfactory results, and in none is greater patience required by the medical attendant, than in porrigo scutulata. To this general statement there are, of course, many exceptions; but as a general rule it will be confirmed by the experience of every medical man.

The treatment of porrigo scutulata is of two kinds, varying essentially both as to the end that we wish to obtain, and the stage of the disease; the object of the first kind of treatment being to arrest the disease at once in its earlier stages, that of the other being to modify the action of the integument, where the disease has become chronic, in such a way as to enable it to revert to a healthy condition.

The following is the plan that I am in the habit of having recourse to, and that will, I think, in most instances, be found to be successful.

The first thing to be done, when a child is found to be affected with one or more patches of porrigo scutulata, is to shave the head without delay, in order that the extent of disease may be known, and that it may be more conveniently brought within reach of proper treatment. The diseased patches should then be touched with one or other of the stronger acids, so as, if possible, to cut the affection short at its very outset. Plumbe preferred the sulphuric acid, and this is no doubt a very excellent application when used lightly, and with moderate care, by means of a feather, as he recommends. I have given both the sulphuric and nitric acids a trial, but prefer in general the concentrated acetic acid, as originally recommended by Dr. Wigan (Medical Gazette, vol. ii. 1842-43, p. 864.) Before having recourse to this, it will be well to follow the very excellent advice given by that gentleman of *testing* the shaven scalp by washing it with a lotion composed of one part of the strong acetic acid to three of water; in this way a number of spots, which would otherwise have been overlooked, may be detected by their becoming reddened. The concentrated acetic acid should then be applied for a few minutes to each spot, as recommended by Dr. Wigan, by means of a piece of sponge tied to the end of a stick, or held by a pair of forceps. Used in this way the acetic acid is a more manageable and agreeable preparation than the sulphuric or nitric; possessing the additional recommendation of dissolving the cuticle, and thus readily coming into contact with the subjacent diseased parts. The mineral acids, on the contrary, char and harden the cuticle, and do not penetrate to a proper depth, unless they be applied so freely as to give rise to danger of proving a slough. The acetic acid applied thus, occasions pretty severe smarting and burning, which lasts for a few minutes; this is followed by reddening of the part that has been touched, the diseased cuticle becoming opaque and whitened, or raised up into small vesications. After the patches have been freely and effectually touched nothing more should be done to them for a week or ten days. When the crust that has been produced by the action of the acetic acid upon the epidermic scales, diseased hairs, &c., has been raised off the scalp by the growth of new and probably healthy hair; this should then be removed, as Dr. Wigan recommends, by means of a pair of fine scissors, and the subjacent integuments carefully examined by means of a lens. After having been well washed with

soap and water, should there be any appearance of disease still existing, the acid must be reapplied. Should the part present a healthy appearance, or be merely reddened in consequence of the irritation that had been set up in it by the acid, nothing will be required beyond simple ablution with tepid soap and water, and the application of a little olive oil every night. Before pronouncing the disease to be effectually eradicated the surgeon should never omit to examine carefully under the microscope some of the newly-formed hairs growing from the patch that had been affected, in order to ascertain whether they contain the charisteristic sporules, or vegetable organisms, that have been described in an early part of this paper. This rule should never be departed from, as it is impossible to pronounce the patient cured until this point be ascertained; and the application of the acid should be continued until the hair when removed, or the cuticle when scraped off, no longer presents, when subjected to the microscope, any of the appearances that are so characteristic of this disease. Indeed, when once acquainted with the true nature of porrigo scutulata, the rationale of the beneficial action of the stronger acids becomes obvious, consisting simply in the destruction of those vegetations that are the essential cause of the disease, and which, unless destroyed by the application of a powerful caustic, may keep it up for an indefinite period. This consideration will explain the almost invariable failure of merely stimulating applications, such as irritating ointments, hellebore, savine, elemi, pitch plasters, &c., which can exercise no destructive influence on the morbid growths that essentially constitute the disease.

After the acid has been continued until the whole of the vegetable organisms have been destroyed, and not till then, we may have recourse to such applications as will stimulate the integuments to a more healthy action, and thus prevent the reproduction of the disease. Amongst these I have generally found the most useful to be either the creosote ointment in the proportion of ʒss. or ʒj. of the creosote to an ounce of lard, or the tincture of iodine applied by means of a camel's hair brush. The unguent. hydrarg. biniodid. diluted with six parts of the unguent. picis liquid, or a mixture of equal parts of sulphur and pitch ointment; or the carb. of potass ointment in the proportion of from ʒss. c. ʒj. of the salt to the ounce of lard, are also frequently very serviceable. Whichever of these applications be employed, and an alternation of them is perhaps the most useful, the parts should be well washed three or four times a day with a lotion of the sulphuret of potass dissolved in lime water. either alone or in combination with the carbonate of the same alkali, or with soft soap.

[We should at the same time attend to the general health; if the child be of a relaxed fibre or scrofulous, as is often the case, he should have a very nutritious diet, and a mild corroborative plan of treatment. In chronic cases, some of the preparations of iron

with iodine, and quinine either alone or with quassia, will be found beneficial. Cod liver oil has been recommended, but Mr. Erichsen has never seen any good result from its use. All heating and salted articles of food should be prohibited, and a nutritious but plain regimen enjoined. Mr. E. observes:]

It by no means uncommonly happens that a few weeks after the porrigo scutulata has been cured, an impetiginous affection makes its appearance on the scalp; this is more especially liable to occur if the child be allowed to take too salt or stimulating a diet, or if in any other way his health be deranged. This affection must be treated in the same way as impetigo of the scalp proceeding from other causes, and will, though in certain constitutions assuming a somewhat intractable character, most generally soon yield to the employment of an emollient or but slightly stimulating local treatment.

Medical Gazette, June 19, 1846, *p.* 1072.

150.—*Case of Porrigo Pudendi.*—By J. C. Evans, Esq.

[This patient was a stout, healthy looking, plethoric little woman, about forty-six years of age, She ceased to menstruate about eighteen months ago, soon after which she began to feel occasional itching and smarting pain about the pudendi when she got warm in bed or stood before a fire. The last three months the pain has become so intolerable she could not endure it; she was obliged constantly to get out of bed, and apply cold cloths to the part.

There were a few papulæ of a bright red colour on the pudendi and inside of the labia. The surrounding parts were dry and hot.]

Treatment.—Took eight ounces of blood from the arm, from which she derived almost immediate relief. Four grains of calomel and six of compound extract of colocynth, to be taken directly, followed by a table-spoonful of the following mixture every four hours:—Nitrate of potash, ʒj.; sulphate of magnesia, ℥j.; camphor mixture, ℥vj. Mix. The lotio plumbi to be kept constantly applied to the vulva. Passed a very comfortable night; bowels have been open several times; pulse less rapid; less thirst, and skin cool. To continue the mixture (omitting ʒvj. of the sulphate of magnesia) and the lotion.

Under this plan of treatment she soon recovered her usual health; but when her bowels become confined, or when there is any irregularity in diet, she always has a return of it. A lotion containing two grains of the bichloride of mercury, and two minims of hydrochloric acid in an ounce of water, has been substituted for the lead lotion. The strength has been increased to five grains of the bichloride and five minims of the acid to the ounce. By attention to the state of her bowels and diet, she is, although not entirely rid of the disease, able to go about, and attend to her affairs.

Medical Gazette, July 17, 1846, *p.* 113.

151—*On Acne, &c.*—By Thomas Hunt, Esq., of Herne Bay.—[Mr. Hunt has given us several very excellent papers on different cutaneous affections, which the reader will find in the *Lancet* for 1846, vol. i, pp. 32, 77, 125, 271, 385, 543, 597. We subjoin those on acne and lupus. We may, however, here say that in lepra, psoriasis, lupus, acne, eczema chronica, impetigo, prurigo, lichen, and in all chronic affections of the skin, which are not venereal, nor dependent on local causes, his mode of treatment which has certainly been very successful, consists in first reducing inflammatory action (if it exists) by depletion and antiphlogistic regimen; then in administering arsenic, beginning with five minims of the liquor potassæ arsenitis, three times a day, with the meals, until the conjunctivæ are inflamed, then reducing the dose to four minims, keeping the eyelids slightly sore and weeping. Mr. Hunt states that the whole success of this treatment depends upon the continued use of the medicine, which is harmless when administered with vigilance, and with the above restrictions.

Acne Simplex.—Mr. Hunt mentions a case of acne simplex, in a girl, nineteen years of age. It was situated on the forehead, chin, upper lip and cheeks; she had suffered from it for three or four years. She was ordered five minims of the liq. potass. arsenitis, three times a day with her meals; at the end of three weeks she was quite well. He also gives a case of the variety of acne, known by the name indurata, in which five minims of arsenite of potash were taken three times a day for three months, without either affecting the disease or producing any unpleasant symptoms. Soon after this, continuing the arsenic, she began to improve, and in other three months she was quite well. She took occasional purgatives. The disease was of seven years standing. Acne rosacea appears to be an inveterate form of the simplex, remarkable on account of its locality, and occurring not at the age of adolescence, but rather at the decline of life, commencing at the middle period; it is not confined to dram drinkers, but is equally common to persons of abstemious habits.

This form of disease is very difficult to treat. Rayer regards it as incurable; and probably it is so in the drunkard, and in those cases which are hereditary or congenital; where there seems irritation from one extremity of the intestinal canal to the other, there being coexistent hæmorrhoids and an irritable condition of the rectum. Dr. Chambers has given the history of a case in which arsenic proved most beneficial, and we subjoin it:]

Mrs. N——, a lady of temperate habits, clear complexion, and good general health, had been complaining for some weeks of languor, lassitude, headache, hysterical globus, and chronic diarrhœa. These symptoms were treated variously, but with but little success for a time. At length, on the right ala of the nose, a small number of acuminated pustules appeared, elevated upon an inflamed base, and having the genuine character of acne, but more closely crowded

together than they usually are in that disease. These soon became covered with a purulent incrustation; other pustules appeared in the neighbourhood, until at length the whole ala, with a contiguous portion of the cheek, became occupied by the disease, and presented and ugly and hypertrophied appearance. As a portion of the crust became separated, other pustules appeared underneath, and a second crust was formed, which, when detached, discovered other formations, on a larger base, and involving a deeper portion of the subcutaneous tissue. There was no pain or itching, and, except, on approaching the fire, no sensation of heat. The crusts were surrounded by a small areola of a dull-red colour, rather inclined to a brown shade, but never exhibiting the livid colour of lupus, which disease it nevertheless, in some respects, resembled.

Dr. Chambers saw the case within two or three months of its commencement. He pronounced it acne rosacea, gave a guarded prognosis, and prescribed arsenic, of which the first dose was taken on the 3rd of January, 1844, and continued, on the plan detailed in the preceding cases, for three months, by which time the disease had entirely vanished, and the hypertrophied cellular tissue was reduced to its normal condition. Any doubt which might have been entertained concerning the agency of the arsenic in the cure would have been dissipated by the ultimate history of the case. The patient now left her home "for a week';—was actually absent five weeks, neglected her medicine, and returned home with another tuberculous incrustation, which, commencing on the original spot, had now spread more horizontally over the cheek, and seemed to take a more superficial hold of the integuments than the former attack.

May 10th. The arsenic was now resumed, and taken steadily, till the middle of July. Before the end of May, however, the disease had again disappeared. The medicine was persisted in for two months subsequently, with a view to prevent a return; notwithstanding which precaution, the disease was only kept at bay for twelve months, not radically cured; for in the following July, (1845), the old enemy reappeared, evidently, however, in a milder form than heretofore; for now the arsenic put him to flight in ten days, and was steadily persevered in for two months afterwards. At present there appears no probability of a relapse. A considerable indentation, like a bad variolous scar, was left by the first attack: the latter attacks left no scar.

The diarrhœa, headaches, and hysterical affections, retired as soon as the arsenic had hold of the system; and the patient has enjoyed excellent general health since the termination of the first course. The conjunctiva became affected, as usual, synchronously with the subsidence of diseased action, both local and constitutional. No external application was used, nor any potent internal medicine, after the first exhibition of the arsenic.

The reader's attention is particularly solicited to three observations suggested by this interesting case:—1. The decline of the dis-

ease, on three distinct occasions, under the steady use of arsenic alone, independent of external applications, changes in diet, or other circumstances of regimen; its repeated relapses after neglecting the medicine for a few weeks, and its (probably) final disappearance, after such a protracted course of reduced doses as seemed to destroy the very tendency to morbid action: these circumstances demonstrate the absolute control which this wonderful medicine exercises over tubercular diseases of the skin, and holds out a strong encouragement for its lengthened trial in cases of longer standing. 2. The morbid condition of the nervous system, and the extreme irritability of the intestinal canal, in circumstances which would generally be held interdictory of the use of arsenic, were, in this case, not less clearly relieved by the arsenic, than the cutaneous affection itself. 3. The resemblance of this case to lupus, both in the locality primarily affected, and in some similarity of general appearance and history not easily described, seems to suggest, if not establish, some relation between this disease and certain forms of acne rosacea; and if it throws no light on their cause and origin, it indicates a morbid condition of the general system, susceptible of successful treatment by a similar alterative plan. The writer has further the satisfaction to state that he has had an opportunity of carrying out this indication with the most entire success, in a case of lupus exedens, of many years' standing, the particulars of which will hereafter be presented to the reader.

The two varieties of acne which have now been discussed belong properly, or principally, to two distinct and distant periods of life, respectively—viz., acne simplex, to puberty; acne rosacea, to the meridian or decline of life. There is a third species, pertaining to the intermediate years, and seldom met with, either in the morning or the evening of human life. And whereas the principal seat of acne simplex is the forehead, and of acne rosacea, the nose, the variety now under review occupies only those parts of the face which in the male subject are covered by the beard. It is known by the name of Sycosis, or mentagra.

[This affection is not confined to the male sex; it is more common, indeed, in the female, but for obvious reasons it occurs in males in its worst form.

The disease is confined to the chin, cheeks, upper lip, and submaxillary region. Its cure is difficult. Some have recommended that every hair should be plucked up by the root; but as the cause is constitutional, its cure cannot always, be effected by local means. Arsenic is here again most to be depended upon, with proper attention in keeping the parts clean. Mr. Hunt relates the case of a young lady who was affected with this disease; it had existed for three months when treatment was commenced. He says:]

No external application was used, but the following medicine was prescribed—viz., Fowler's solution, one drachm; distilled water, seven drachms—mix. Forty minims to be taken thrice a day in the beverage usually taken at meals.

June 30th.—The pain has left her. She sleeps well, and is looking better. The eruption is fading, and the skin is paler and less occupied by small points. Slight conjunctivitis. The dose of arsenic was reduced to four, and afterwards to three minims of Fowler's solution.

Aug. 1st.—The eruption has quite disappeared. She has had no relapse of the neuralgic pain, and is in perfect health.

[Mr. Hunt also describes another case. A lady, twenty-seven years of age, who was affected with sycosis; she was also affected with dyspepsia. The latter affection was treated for a fortnight with aperients and alkaline tonics, and a solution of bichloride of mercury applied to the face; there was no improvement in the eruption, and but little in the dyspeptic symptoms. He adds,]

The arsenical treatment was commenced on the 17th of August, 1845, and in little more than a week the stomach had resumed its healthy tone, and the skin was nearly well; but she neglected the medicine, and before the following Christmas, both complaints returned, and are again yielding to arsenic.

Both of these patients were of mature age, and had been free from the cutaneous affection at the age of puberty. The skin of the forehead was sound, and the disease was somewhat more acute in its character than acne simplex. It commenced too early in life for acne rosacea; besides which, the nose escaped entirely. The disease was therefore mentagra, or, more probably, acne menti. In both cases, the disease, with its respective complications, yielded readily to arsenic. Not a doubt can be entertained of the constitutional origin of this disease; and calm reflection on the primary characters of sycosis in the male sex, will lead the observer not only to identify the disease with acne, but to perceive the necessity of prescribing an alterative course in connexion with local applications. The writer regrets that he has not as yet had an opportunity of giving this kind of treatment a trial in that aggravated form of disease which is peculiar to men, but he cannot entertain a doubt as to the issue.

Lancet, May 16, 1846, *p.* 543.

On Lupus.—[Mr. Hunt says on this subject, there are two varieties of lupus described by Rayer,—lupus exedens and lupus non-exedens.]

The first of these ulcerates from the surface inwards, and leaves deep excavations; the second spreads and ulcerates horizontally; the third rarely ulcerates at all. The two latter are tubercular diseases, and are comparatively rare in this country. The former, *lupus exedens*, or *noli me tangere*, is a frightful disease, difficult of cure, and when cured, leaving behind it more or less of deformity. To this disease the writer will at present confine his observations. He is disposed to agree with Mr. Plumbe in doubting whether this form of lupus is strictly of tubercular origin. It is, in fact, a chronic

cutaneous inflammation of a peculiar character, at once indolent and irritable, but often for a time devoid of pain; of a livid colour, commencing generally in a small portion of the ala of the nose or the circumference of the nostril, and speedily tending to phagedenic ulceration. The ulcers are covered by dirty-looking adherent scabs, which, on desquamation, discover a surface moistened by a glutinous exudation, soon drying into a new scab; and this, on its separation, disclosing deeper excavations, until not only the subcutaneous tissues, but eventually the cartilaginous structure of the nose is eaten into. The disease commonly extends to the upper lip, and the gums of the upper jaw. The whole of the nose, upper lip, gums, and incisors of the upper jaw, and even portions of the bone, have been known to be sacrificed to the ruthless invader. The lower eyelid and the commissures of the lips are sometimes respectively the seat of lupus exedens, the ravages of which produce suffering and deformity not less deplorable than lupus of the nose.

The causes of this horrible disease are utterly unknown. Its subjects are commonly young and previously healthy women, from the age of sixteen to thirty. The diagnosis is not difficult; but through the too general neglect of the study of cutaneous diseases, and the consequent ignorance of the symptoms of well-defined and specific diseases, the repulsive malady has very often been most inexcusably confounded with syphilis, and the disease has been aggravated by mercurial salivation. In syphilis there can always be traced, at least, a concatenation of secondary symptoms previously developed, and the disease usually commences from within, the cartilages suffering first; and the ulceration, when it appears, has a character of its own, quickly appreciated by the experienced eye. In lupus, on the contrary, the disease appears in persons who have generally enjoyed good health, and in whom neither primary nor secondary symptoms have ever appeared: it first appears in the skin, which is not copper-coloured, but livid. The prognosis is generally as melancholy as the disease is horrible. The writer has sought in vain, both in books and hospitals, for a single case in which its ravages have been actually and permanently arrested; although, here and there, allusions to cures are found in books. Precepts for its treatment are sufficiently plentiful; but demonstration of their utility is lacking.

[Mr. Hunt gives the case of a female who was affected with lupus exedens for nine years, it had been mistaken for secondary syphilis. On the 5th of January, 1837, Mr. Hunt describes her case as follows: The tip, both alæ, and part of the septum of the nose are already eaten away; the four incisor teeth of the upper jaw are gone with a portion of the upper lip and jaw; the breath is offensive, and her voice has a nasal twang; there is severe burning pain in the part, and she cannot sleep. He adds:]

The parts were ordered to be dressed with a pledget of pure fresh

spermaceti cerate, thinly spread upon fine lint, simply to protect them from the oxygen of the atmosphere, and from sudden changes of temperature, no other application being used. Five minims of the liquor arsenicalis were ordered to be taken with the meals thrice a day, which dose was persisted in with exact regularity for three months, when the conjunctiva became affected. The dose was then and afterwards reduced as occasion required. This plan was uninterruptedly pursued for two whole years, the disease, meanwhile, advancing as heretofore, but she at length experienced some alleviation of the pain. The action of arsenic is slow but sure.

January 30th, 1839.—She has now lost all pain, has regained her flesh, spirits, and good looks, and has undisturbed rest, but there is no appreciable improvement in the ulcerated surfaces. The disease has committed visible ravages since the commencement of the arsenical treatment, but the patient fancies it has been "at a stand still" for the last few weeks.

January 12th, 1840.—She has now steadily persevered in the arsenic for three years. The conjunctiva has been more inflamed "latterly," but the skin of the nose, lips, and gums, is perfectly whole and sound. No traces of ulceration or scaliness are visible, but there are ugly cicatrices and scars, with great loss of substance, and the contaminated breath suggests the idea of disorganized cartilaginous structure.

March 2nd.—There is no visible trace of existing disease in the nose, lip, or gums, but the breath is still offensive. She thinks she has taken cold, and complains of pain in the chest, dyspnœa, and hard dry cough. There is a croupy hoarseness, as well as a nasal intonation in her voice. Pulse 96, firm; skin hot and dry. Fourteen ounces of blood were taken from the arm; aperients, salines, and low diet; discontinue the arsenic.

April 10th.—Quite well, with the exception of foul breath, and nasal tone of voice. No medicine prescribed.

[August 3rd.—She had taken arsenic for nine months. The ulcer was returning, but it was not so foul and unhealthy in character. The arsenic was resumed in small doses, and continued for a month. On the fifth of September, the skin was healed, and its surface looked healthy. January, 1841.—The arsenic was continued until this time, and it was now discontinued. Mr. Hunt observes:]

After this patient had taken the arsenic about twelve months, a brown, dirty, and mottled appearance of the rete mucosum was observable, first, on the legs and thighs, then, at the end of the second year, on the trunk of the body, and ultimately on the arms and neck, the face only escaping. This disappeared gradually, without desquamation, after the medicine was abandoned. The writer is not aware that this effect of arsenic has ever before been recorded.

In this extraordinary and highly satisfactory case, the controlling power of the arsenic is so perfectly demonstrated by repeated ex-

periments—the disease uniformly advancing when the medicine was withheld, and as uniformly receding under its influence, until the very tendency to diseased action was absolutely destroyed nnder its continued use—that no comment can add any force to the facts. The concurrent testimony of writers on the skin to the improvement of the ulcers of lupus under the topical use of arsenic, is worthy of notice, in connexion with this case. The object for which arsenical applications are recommended is to check the destructive process of the ulceration by exerting a new action on the surface. Is it not more probable that the temporary benefit derived from the dressing is attributable to the absorption of arsenic? Mr. Plumbe seems to be aware of the influence of the internal use of arsenic in lupus, but he does not tell us that he ever succeeded in curing the disease by it. The cause of his failure is unconsciously confessed in the following sentence:—"It is proper to *increase the dose gradually*, till some manifestation of tendency to disorder of the stomach and bowels occurs, when it should be *entirely withheld*, and purgatives, with opium, substituted, till such symptoms have subsided." I have marked in italics certain words in the preceding extract, to indicate the rock on which practitioners generally split in the administration of this medicine. The writer has administered arsenic in hundreds of cases, but has never observed the slightest tendency to disorder of the stomach or bowels, because he has invariably reduced the dose before it has done any mischief; and probably mixing the medicine with the food has protected the stomach and bowels from injury. It is strange that some writers advise it be taken on an empty stomach. It may not be unadvisable to repeat, that the curative properties of arsenic will always be found to reside in doses too small to be mischievous.

In reflecting upon the uniform success which has attended the right use of arsenic, in the treatment of a great variety of diseases apparently so unlike, one is naturally led to inquire—how does the medicine act? and, what points of coincidence are apparent in this motley group, which may be supposed to indicate uniformity of treatment? To these questions, full of interest as they are, the writer does not feel himself in a position to hazard a reply. His present object is to direct the attention of the profession to a series of facts, rather than to risk their value on the hazard of a speculative theory. It is certain, however, that there must be something in all these cases constitutionally wrong, which the arsenic has the power to rectify. In several of them there was no manifest deviation from health, functional or structural, in any organ, save the skin. It may therefore be inferred, as a corollary from the above results, that local diseases may, and often do, indicate a cachectic condition of the circulating fluids, where there is neither any apparent deviation from healthy vascular action, nor any palpable abnormal tone in the nervous system. Beyond this, it is difficult to carry our inquiries. It is hazardous to deduce pathological conclusions from therapeutical facts, especially from those which are

limited to a confined range. But the field is open for further experiment. It may turn out, at last, that arsenic, though all-sufficient, is not essential to the cure of these diseases. There are other alternatives. probably of equal power, if not of equal promise, which have never yet been tried methodically, or with sufficient care and nicety, to test their value.

It is now many years since the writer resolved to try what could be accomplished by arsenic in the treatment of the more unmanageable disorders of the skin, and he confesses himself astonished at the result. He has little acquaintance with other remedies beyond his knowledge of their general inefficiency. He has abjured medicated baths, ointments, and lotions, and, excepting for the purpose of reducing inflammatory action where it existed, he has placed no restriction upon diet. Moreover, he has, in almost every protracted case, allowed the arsenical course to be interrupted again and again, and generally found he could check the disease, or allow it to advance at pleasure. In this way he has had the satisfaction of establishing the value of this one medicine beyond the possibility of doubt and the reach of cavil, and by illustrating the efficacy of small doses, and thus securing for the medicine an innocuous operation, he has removed the only valid objection to its use,—namely, its dangerous properties. Still nothing would give the writer more pleasure than to hear that any one of his brethren had discovered by sure induction, a remedy less objectionable than arsenic, but equally potent in its control over these disorders. This, however, is scarcely to be expected. A medicine which, besides being almost certain in its operation, is safe, cheap, and tasteless,—which can be taken at mealtimes, through a whole life, if necessary, generally without creating disgust or nausea,—which interferes, in curative doses, with no healthy function,—which gives no pain and inflicts no inconvenience,—has surely recommendations which are not easily surpassed.

There are two or three circumstances connected with the history of the preceding cases which ought not to be overlooked.

1. Especial care should be taken to ensure the purity of the medicine. The necessity of attention to this point is more palpable than may appear at first sight. One would think that a medicine so cheap as arsenic would scarcely be adulterated, and that its well-known poisonous properties would always secure a careful and accurate preparation of its formulæ. It is a fact, however, that the arsenious acid (oxide of arsenic), as sold in powder, is very commonly adulterated with sulphate of lime, and although it is difficult to make the Fowler's solution of such materials (inasmuch as the gypsum being insoluble in the solution of carbonate of potash, the former will always appear as a precipitate), yet, that the solution is sometimes prepared in this way, or otherwise adulterated, is more easy to believe than that such enormous doses may be borne with impunity, as are said to have been administered. The solution used in all the preceding cases was procured from

Apothecaries' Hall, and its operation has been found, at least, as uniform as that of medicines in general.

2. The cases were, for the most part, treated by the sea-side. Whether the influence of a marine atmosphere, or of mere change of air, may account in part for their successful termination, must be left an open question, to be decided by future experiment; but it is right to mention that most of the patients were so circumstanced.

Lastly. Having pointed out an eligible method of bringing to a happy termination these annoying and loathsome maladies, the author feels that there is yet an ulterior and very momentous question to be decided, before these results can be contemplated with entire satisfaction.

There prevails in the profession, as well as among the public at large, a *suspicion* (to say the least) that some of these diseases cannot be *safely* cured at all; that morbid affections of the skin, though severely afflictive, sometimes exercise a salutary influence upon the system at large, acting as wholesome and natural drains or safety valves, to the vascular apparatus, and thus, by their timely or continuous action, preventing the accession of still more serious forms of disease, probably involving the vital organs, and sometimes even endangering life.

Lancet, May 30, 1846, *p.* 597.

[Mr. Gibb, house-pupil at the Newcastle-on-Tyne Infirmary, has reported the treatment of an inveterate case of lupus, in which, after the use of various remedies, the application of powdered arsenic and calomel proved very useful, together with the internal administration of the arseniates and iodides. The naphtha ointment, which was at one time used, agreed well with it. The patient also took cod-liver oil for some time, which appeared to be of great service.]

Lancet, June 27, 1846, *p.* 695.

152.—*Lotion for Diseases of the Skin.*—In cases of pityriasis, herpes, and eczema, M. Cazenave has recommended the use of a lotion composed of one part of alum and sixty-two parts of water. In chronic eczema he recommends as a useful local application nitric acid and muriatic acid, of each twenty-five drops, to ten ounces of water.

Medical Gazette, Aug. 7, 1846 *p.* 246.

153.—*Local Treatment of some Diseases of the Skin*—M. Cazenave frequently prescribes with success the employment of simple acidulated lotions in certain of the slighter forms of acne, lichen, pityriasis, herpes, and even eczema; or still more, especially in impetigo after the crusts have fallen off, he has recourse with advantage to the following application of alumina:—Take of alum, eight grammes;

infusion of provence roses, 500 grammes. The dose of the aluminous salt is sometimes increased according to the case, as far as twelve grains, but the lotion which succeeds best with these several affections is unquestionably a mercurial lotion, to the secret preparation known by the name of similar Gowland's solution, and still more to the mercurial emulsion of Bateman. After many trials, M. Cazenave finally adopted the subjoined formula:—Take of bichloride of mercury, ten centigrammes; hydrochlorate of ammonia, ten centigrammes; almond emulsion, 250 grammes: to make a solution. When the eruption in eczema is entirely chronic, M. Cazenave then directs frequent lotions with the following mixture:—Take of nitric acid, 25 drops; hydrochloric acid, 25 drops; distilled water, 300 grammes: mix by shaking.—*Gazette des Hôpitaux.*

Provincial Medical and Surgical Journal, Sept. 22, 1846, *p* 341.

154.—*Nitrate of Silver in Erysipelas.*—M. Jobert recommends the application of nitrate of silver in Erysipelas, in the form of ointment rather than the caustic itself, and gives the quantities as follow:—

1. Lard, 32 parts or ℥iv. Nitrate of Silver, ℥iss. or 12 parts.
2. „ „ „ ℥i. „ 8 „
3. „ „ „ ℥ss. „ 4 „

Gazette des Hôpitaux, Aug. 18, 1846.

Medical Gazette, Sept. 25, 1846, *p.* 544.

155.—*The Effect of Hydriodate of Potash in removing the Stains of Nitrate of Silver from the Skin.*—A solution of hydriodate of potassa is found to remove the stains made by nitrate of silver on the skin, almost immediately. It is sufficient to moisten the spots several times with a solution of the hydriodate, and then to expose the part to the diffused light of the sun, when the salt of silver is decomposed, being converted into a white ioduret of silver, and thus the black colour disappears. The instance last given of this effect is the removal of the dark stains produced on the eyelids and cheeks of a young woman in one of the Parisian Hospitals, by the use of a strong collyrium of nitrate of silver. The same effect has been noticed in this country; for example, the removal, by the same agent, of the olive colour produced on the cornea by the prolonged use of nitrate of silver. We have not yet observed any report of the trial of the internal use of the hydriodate of potassa for the purpose of removing the dark metallic hue given to the exposed parts of the surface by the internal use of nitrate of silver. If it be found to have this effect also, the fact will be of the utmost value in practice, as giving to the profession a more extended freedom in the employment of a most valuable remedy in many diseases. It is hardly to be expected that the external application of the solution of the hydriodate will produce much benefit in the latter case; but, even in this form it deserves a trial.—See *Journal de Médicine et de Chirurgie Pratiques*, Septembre, 1846.

Monthly Journal of Medical Science, Nov., 1846, *p.* 371.

156.—*Case of Ichthyosis Fortuita treated with the Decoction of the Root of the Rumex obtusifolius.*—By Dr. A. T. Thomson.—[This patient, 15 years of age, was admitted under the care of Dr. Thomson, in University College Hospital, on the 2nd of June, 1846. About six years before, he was run over, which confined him to bed for some time, soon after which the inguinal glands swelled and suppurated. About two years ago, he observed the skin about the ankles become rough and of a dull colour, but without pain or redness; it gradually extended up the legs to the body, and finally attacked the arms, where it was of a darker colour.]

At present there appear elevations of a warty character, extending from the fore arm to the scapula: the elevations are darker and more prominent over the elbows and the scapulæ. There is a thickly covered warty appearance also over the ankles and the knees; the legs and the thighs appear as if covered with mud. On the sides of the trunk, the back, and the breast, the cuticle has a cross furrowed appearance, and a rough feel, but it is scarcely discoloured. The scalp is also, for the most part, covered with the same dark, warty-looking elevations as the rest of the body. The face, hands, groins, axillæ, flexures of the elbows, wrists, knees, and the soles of the feet, are free from the diseased appearance. On no part is there any redness of the skin, or pain, or heat, or itching. There are cicatrices from small abscesses on various parts of the body: the lips are red and cracked; the tongue is furred and red at the apex, but it is moist, and the papillæ are prominent. The breath is offensive. He has no appetite. The abdomen is free from pain even on pressure, and it is not tumid. The bowels are regular. He has no symptoms of hepatic derangement. The respiratory organs, and also those of circulation, are quite natural. The pulse is 80, soft, and compressible. He has passed only three ounces of urine in twelve hours; it is high coloured, neutral, of a sp. gr. 1,030, and rather turbid, but it is cleared by heat: it contains globules, apparently fat globules and epithelium scales, when it is examined under the microscope. He has not been under any medical treatment previous to his admission into the hospital.

He was ordered to have the scalp shaved, to have a warm bath, and to take a four grain calomel pill immediately, and an opening draught two hours afterwards, and after the operation of this, the following medicine:—

℞ Pil. Hydrargyri, gr. j.; Antimonii Potassio Tartratis gr. j.; Extracti Conii, gr. ij. ft. Pilula 8va quaque hora sumenda.

℞ Liquoris Potassæ, ♏xx.; Solutionis Arsenicalis, ♏v.; Tincturæ Cantharidis, ♏x.; Decocti Rumicis Obtusifolii, ℥ij. ft. Haust. ter quotidie sumendus.

June 4th. The urine still the same; the bowels are open; the general appearance is already somewhat improved. The medicine to be continued.

6. The legs and arms are much cleaner looking, and, where the

scales are removed, the cuticle is hard, dry, and white. The bowels are regular; the urine measures 12 oz. in the twenty-four hours; its sp. gr. is 1·016. A slightly flocculent cloud floats in it, but it is free from fat globules. The tongue is slightly furred. The scalp not at all improved. The medicine to be continued.

8th. The general health improved. The legs and arms are much better. The elevations on the scapulæ are rather darker. The bowels are regular; the urine still the same in quantity, but it is pale and cloudy. The medicine to be continued.

[Dr. Thomson named this affection ichthyosis fortuita, as it was not hereditary. Bateman and Willan have described another form of ichthyosis, appearing only in infancy—Ichthyosis innata; it is always hereditary.]

Those parts of the body unaffected in this case, were the most perspirable, so that a great deal may be attributed in its production to defective action in the capillaries of the skin. It is difficult to say whether this action is increased or diminished.

Dr. Thomson considered that in the treatment of this case there were three indications to be fulfilled. First, to augment the action of the capillary vessels of the skin. Secondly, to improve the secretions generally; and thirdly, to aid the action of the treatment on the skin, by topical means, so as to stimulate the skin and to detach the diseased papillæ from it. In order to fulfil the first indication, small doses of blue pill and tartar emetic were ordered, as the latter aided the former in its influence on the cutaneous capillaries, and increased the perspiratory function, which was evidently defective in this case. The arsenical solution and cantharides also, which were prescribed, aided this in a striking manner; and the decoction of the rumex obtusifolius was well adapted as a vehicle for these alteratives. Dr. Thomson was first led to the employment of this species of rumex in the case of a lady, who was under the care of the late Dr. James Gregory, of Edinburgh, and who after taking various alteratives, and even being several times salivated, and also suffering the papillæ to be shaved off, was not benefitted.

After employing the various remedies generally found useful in cutaneous affections, he was at last accidentally led to administer the decoction of the rumex *obtusifolius*. When this had been taken for a fortnight, the patient was apparently cured; but on omitting the medicine, the disease returned three or four successive times, and was again cured by the re-employment of the rumex, with the arsenical solution. The habit of disease, however, appeared to be kept up; small blisters were therefore applied to the affected parts to alter the diseased action, and this, with the use of the remedies, effected a perfect cure. Since this time Dr. Thomson has employed the decoction of the rumex in several cases, and it has never failed to effect a perfect cure. After having made trial of the remedies generally recommended in this disease, and after employing the other rumices, and even tar, which is still much esteemed by many

praetitioners, he had never seen permanent benefit derived from any other medicine except the rumex *obtusifolius*, whieh he thinks might prove beneficial even if administered alone; but its aetion is so mueh assisted by the medicines previously mentioned, that it should searcely be relied upon except in combination with them

On the continent the root of the rumex *obtusifolius* is employed by the monks as a purgative, and hence is called *Monk's rhubarb:* but if it should purge much, it would be found to be of little use in this disease. It is only when its full action upon the kidneys or the skin is obtained that it is to be relied upon. It ought therefore to be administered in the form of a decoction; not in that of powder. The second indication is to be fulfilled by generous diet; and here milk would be found to answer well: vigorous exercise, suffieient to exeite perspiration, should be taken in the open air. As this cannot be fully earried out during a residence in the hospital, ichthyosis is not well adapted for an hospital. In fulfilling the third indication we should employ the warm bath, with friction to the surface: the sulphur bath is found to be not more useful than the warm bath at 90°, the ehief object being to soften the skin, to enable it to throw off the elevated papillæ, and to improve the perpsiratory system.

The prognosis in such cases must depend, in a great measure, upon the general habit and state of health of the patient. If there is a strongly marked strumous diathesis, as in this case, it must be guarded; but if the general health be little affected, then we may prognosticate a favourable termination. In the present case the improvement had commenced, and Dr. Thomson did not doubt that it would progress to a speedy and eomplete cure.

Medical Gazette, July 3, 1846, *p.* 35.

The deeoetion which Dr. Thomson has found to be so beneficial in the treatment of obstinate cases of ichthyosis, is made by boiling an ounce of the sliced root of the common dock, rumex obtusifolius, in a pint of water. Dose about two ounces.

Medical Gazette, July 17, 1846, *p.* 128.

157.—*On Trichopathy and the Chemical Pathology of the Human Hair.*—By Thomas Cattell, Esq., M.D., &c.—[The varieties in the colour of the hair, Dr. Cattell considers, depends on the presence of sulphur, and not on coloured fatty matter. The variety of colour, however, he says, depends upon the relative quantity actually existing in the hair, in combination with oxide of iron. Dr. Cattell observes:]

Tricho-crosology is a compound Greek term, which I have devised appositely to express the chemical processes employed in reducing some of the unseemly varieties of colour to which the hair is subjeet, to a supposed standard or standards of natural or ideal beauty. These embraee the formation of paste, pommade, and liquid.

I.—Phumaform hair dye.

1. Oxide of lead, three ounces; carbonate of lime, two ounces—mix into a proper consistence with hot water, and apply it to the hair, enveloped in oil-skin.

2. Carbonate of lead in the place of the oxide of lead, and proceed as in the other case. The efficacy of this stain depends on the formation of a plumbite of lime.

II.—Steariform hair dye.

Nitrate of silver, a drachm; nitric acid, two drachms; iron filings, two drachms—mix. After the lapse of a few hours, pour the supernatant liquor on two drachms of oatmeal. Lastly, well mix with three ounces of lard.

III.—Chulosiform hair dyes.

1. Silver, two drachms; iron filings, half an ounce; nitric acid, one ounce; water, eight ounces—mix. When the metallic substances are dissolved, pour off the supernatant liquor, which constitutes the dye.

2. Nitrate of silver, eleven drachms; nitric acid, a drachm; distilled water, twenty ounces; soap (*sap. viridis*), three drachms; gum arabic, a drachm—well mix.

3. Nitric acid, a drachm; nitrate of silver, ten drachms; soap (*sap. viridis*), nine drachms; mucilage, five drachms; water, thirty-seven ounces and a half—mix. This differs from the foregoing only in proportions.

4. Lead filings, two ounces; hartshorn shavings, an ounce; oxide of lead, two drachms; camphor, a drachm; water, a pint. Boil for half an hour, and when fine, pour off the supernatant liquor on diacetate of lead and rosemary leaves, of each one drachm. Again boil, and when sufficiently fine, pour off the supernatant liquor, which constitutes the dye.

Of these preparations, as stains for the hair, none claims so decided a preference as the last. It can produce injury to neither the hair, skin, or brain, and possesses the advantage of communicating a beautiful colour and curling property to the hair. Whatever objection there may be to the use of dyes containing the nitrate of silver, from their liability to darken the skin, still I regard them preferable to the employment of caustic earths, owing to the depilatory action of the latter.

Before the application of any liquid stain, it is necessary that the hair be freed from all greasy matter. A close brush and a comb are all the requisites in staining the hair.

Connected with the general pathology of the hair, the only two points to which I shall now refer, are allopecia and calvities—baldness and fall of the hair.

Allopecia may arise from any cause destroying the vitality of the bulb of the hair—as, various fevers, the wearing silk hats, the existence of what, in common parlance, is called a worm at the root, neglect in cleansing the head, &c.

Calvities follows precisely analogous causes, and merely differs from allopecia in degree.

To remedy these affections, it would appear, by our daily advertisements, that every advertiser had discovered some secret process —had, in fact, ransacked the whole arcana of science. But leaving these, and the victims that use them, I will mention a general remedy or two which will be found much more efficacious and infinitely more satisfactory in their results than bears' grease, Macassar oil, or any other advertised preventive or curative:—

1. Rosemary, maiden-hair, southern-wood, myrtle berries, hazel bark—of each two ounces. Incinerate, and with the incinerated substance make a strong ley, with which to wash the hair at the roots every day. Keep the hair cut short.

2. Carbonate of potash (pearlash), two drachms; water, a pint; use as the preceding. The efficacy of both these remedial applications depend upon their alkalescent character.

But where a greasy substance is required for the hair, I would suggest the substitution of the elaïne of olive oil; though expensive, it will, in many cases, well repay the use, as it never thickens, engenders scurf, or in any way produces detriment to the hair, like common oil or pommade.

The only other greasy matters which I would suggest as substitutes for the elaïne, are ox marrow, well agitated in a mortar, and castor oil, freed of its adhesive matter.

I trust that, for the future, professional men, and not nostrum-mongers, will take charge of the diseases and affections of the hair.

Lancet, July 4, 1846, *p.* 8.

158.—*On the Functions of the Skin.*—By John Coventry, Esq., Essex.

The cuticle is the immediate and actual seat of the skin functions; how many and various conditions, then, has this structure, so elaborate in its simplicity, to realize! How distinct, yet consentaneous, are its diverse operations!

1st. The skin is an external lung, an aerating mechanism spread out over the body's entire surface. Both lungs and skin abstract oxygen from the atmosphere, which they replace by carbonic acid and watery vapour. A healthy cuticle, then, must be freely permeable by elastic fluids (gases and vapours).

2nd. The cuticle is very profusely perforated by minute valvular orifices, openings of the sweat-ducts; the skin is the grand drainage pipe of the body; and when, on indubitable authority, we learn, that computing 2500 square inches as the body's superficial contents, its linear amount of drainage pipe is about twenty-eight miles —an hour's railway ride forsooth! (Wilson)—we shall arrive at something like an appreciation of the importance of keeping this pipeage pervious.

Now, from the two just named properties, the skin is manifestly complementary or vicarious in its functions to those two vital organs, the lungs and kidneys; therefore an obstructed skin throws the whole onus of elaboration upon these latter organs, which consequently become overworked and diseased.

3rd. This is not all. The skin is a decarbonizing organ; opening into the cuticle, in common with the hair follicles, are the orifices of the "fat glands," which secern an oily matter (for the skin's lubrication) from the blood; if allowed to collect, this fatty matter checks the "transpirability" of the skin, by glazing it over with a sort of natural varnish, thus throwing the whole work of decarbonization upon the liver; its fat-cells become gorged, and thus arises that most grave malady, "fatty liver," good enough in a pasty, if there be, that is, any virtue in *pâtè de fois gras*, but no trivial calamity to any unfortunate human possessor.

Carbon is retained, moreover, in the blood, depriving the sentient lining of the arteries and left heart of their proper stimulus; and carbon thus, with saline and other impure matters circulating through the brain, deranges that organ of organs. The connexion, then, between a clear head and a clear skin is closer than the unlearned might suppose.

4th. Many years back, Drs. Blackall and Osborne discovered that dirtiness was a great source of dropsy. To understand this, it must be recollected, that in an impure obstructed skin are checked two of the skin's main functions—evaporation and exhalation.

Lancet, May 9, 1846, *p* 524.

DISEASES OF THE EYE.

159.—ON THE EFFICACY AND MODE OF ADMINISTRATION OF BELLADONNA AND ATROPIA.

By W. R Wilde, Esq, Surgeon to St. Mark's Ophthalmic Hospital, Dublin.

One of the greatest improvements in the oculists' materia medica of late years, has been the introduction of the alkaloid denominated Atropia, which, we believe, we were the first to introduce into practice in this city, upwards of two years ago. It was procured for us by Messrs. Bewley and Evans, who have solutions of it according to our formulæ, of the following strengths:—One grain, two grains, and three grains to one drachm of distilled water, and three drops of spirits of wine, and numbered 1, 2, and 3. The

salt is rendered soluble by the addition of a drop of dilute nitric acid, and the spirit is added to make the solution keep.

A single drop of number 1 placed upon the conjunctiva of the lower lid (where it causes neither pain nor irritation), in a healthy eye, dilates the pupil, in a period of time varying from five to fifteen minutes, to double, or even more than the ordinary medium size, and will retain it so, upon the average, from four to five days; at which period it generally begins to contract, but the pupil does not fully regain its previous size, nor the iris its mobility, till the sixth or seventh day. There will be, no doubt, exceptions to this rule, particularly in cases where there may be such an idiosyncracy present as would render the eye susceptible to the action of the atropa belladonna used in any form, and perhaps keep the pupil permanently dilated for months. To counteract this effect of the solution number 1, we have employed upon the second and third day after its application those remedies which generally excite the pupil to contract, such as sudden exposure to strong light, the application of electro-magnetism, the use of opium, and the application of the vinous tincture of that medicine upon the conjunctiva; but each and all these means have failed to lessen the size of the pupil, in many instances, until the end of the third, or fourth, or fifth days. Solutions numbers 2 and 3 produce a more decided effect upon the iris, and in a shorter space of time, and retain the pupil dilated for a longer period—even to the eighth or tenth day. When the object is to keep the pupil in a state of permanent dilatation, as in cases of iritis and aquo-capsulitis, as well as to try and break up recent adhesions between the iris and lens, or to withdraw the iris from protruding through an aperture caused by a wound or ulcer near the centre of the cornea; in all cases of central cataract; where the cornea is opaque in its central portion, or that a portion of the pupillary margin of the iris is attached to the back of the cornea, after the distission of a cataract; or, in fact, in any case in which we wish to produce permanent or complete dilatation of the iris, the solution of atropia will be found much more efficacious than the usual mode of applying the extract of belladonna externally. It is, moreover, much more cleanly, and is not liable to the objection urged against the latter, of producing an unpleasant eruption around the brow on which it is applied, and it is preferable to the ordinary mode of placing a few drops of the solution of the extract between the palpebræ, inasmuch as it causes no pain nor irritation.

In cases, however, where there is much conjunctivitis, or even deeper seated inflammation, attended with lachrymation, present, it does not possess the immediate and marked power over the iris which it does in the healthy eye, and its effects pass off much sooner; and this remark is applicable even to the three grain solution. It is possible that in such cases the mucous discharge, and particularly the lachrymation which is present, may dilute it too much, or the morbid irritability and increased vascularity of the

organ may render it less susceptible of the local application of this remedy than it would be in an otherwise healthy condition, therefore, in cases of violent iritic inflammation, the syphilitic for instance, where the disease had considerably advanced, and extensive exudations of lymph had taken place, we would not solely depend upon the atropia solution, but likewise apply the extract round the orbit. In cases of recent protrusion of the iris through the central portion of the cornea, the result either of injury, or rupture from ulceration, &c., and when there was no great irritability and blepharospasmus present, we have applied the strong atropia solution externally, by means of a small portion of linen rag wet with it, and retained for a short time upon the closed eyelids, with the most happy results.

We may here remark, that the benefits arising from dilatation of the pupil have not been sufficiently attended to in the general treatment of ulcers of the cornea. We have, on several occasions lately, been able not only to save the eye, but even to prevent adhesion between the cornea and iris (*synechia anterior*), and consequent blemish, by means of the judicious application of the preparations of belladonna. In cases of rupture from ulceration, when we have seen the patient shortly after the rupture occurred—and in many of those instances hernia of the iris had absolutely taken place—we at once applied the atropia solution, closed the lids, kept them in that condition with isinglass plaster, and then applied a large pledget of lint smeared with the extract of belladonna over the eye and brow, and retained it in position by a light bandage, at the same time that we employed, when necessary, local depletion by means of leeches on the temples and over the malar bone, together with blistering, and constitutional treatment calculated to lower the inflammation and prevent the further spreading of the sloughy or ulcerated process in the cornea. We keep the eye covered up in this state for thirty-six or forty-eight hours, and have had, in most instances, the satisfaction of finding, when we came to examine the eye, that the iris had been withdrawn from the wound, the pupil had dilated, and the cornea had united.

There are, however, certain cases in which the use of atropia is inadmissible, namely, in examining the eye for cataract, where we do not wish the dilatation of the pupil to continue longer than a few hours, if possible. In cases where we wish to dilate the pupil before we perform the operation for absorption of the lens, we have more than once seen unpleasant consequences result after this manner. It is well known to operative ophthalmic surgeons, that after the dilatation with the ordinary belladonna extract or infusion, the iris will, during the operation of keratonyxis, partially contract, either from the loss of a few drops of aqueous humour, or from its irritability being excited by the side or flat of the needle touching the margin of the pupil, or from the cataractous lens, whole or in a broken condition, pressing against it: and this condition is rather serviceable than otherwise, for should the lens be inclined to start

from its bed, and press forward through the pupil into the anterior chamber, the iris acts as a partition to keep it in its place; while in a few hours the aqueous fluid is regenerated, the iris falls back into its natural position, and can afterwards be kept dilated by the continued external application of the belladonna.

If, however, the pupil has been previously dilated by the atropia, it is thoroughly immovable, and the lens is liable either to press into it or become dislocated, and get into the anterior chamber. This latter accident occurred to us some time since, in breaking up the lens for congenital cataract. We had ordered a solution, (No. 2), of atropia, to be dropped into the eye the night previously, and on arriving in the morning we found the iris reduced to a mere ring. The child struggled a good deal, and a few drops of the aqueous liquid were lost during the operation, which consisted in a mere crucial incision into the capsule. On withdrawing the needle we remarked that there was no contraction of the pupil, into which the lens pressed. On visiting the child in the evening it had been so uneasy and complained so much of pain, and there was so much lachrymation present, that we were induced to remove the bandage and examine the eye. The cornea was found to have become plump, from the regeneration of the aqueous fluid, but the iris had remained immovable, and the lens had started into the anterior chamber, where it caused considerable irritation and subsequent inflammation. It absorbed completely, however, without a second operation, and in a much shorter time than usual.

In cases of photophobia following cataract and other operations on the eye, and attended with myosis, which had resisted the continued external application of belladonna, as well as the strong atropia solution dropped into the eye, we have found the most marked beneficial effects result from the internal administration of the extract of belladonna, given in the form of solution, to the amount of the sixteenth of a grain, from three to five times a-day. This, in the course of thirty-six or forty-eight hours, has seldom failed to relieve the pain and intoleranee of light, and also to dilate the pupil as far as possible.

In neuralgic affections of the eye, eharacterized by pain of a burning description coming on at partieular, and often regular intervals, sometimes at particular hours of the day, yet induced by reading or using the eye in any fine work, and unattended with inflammation or any apparent alteration in the texture or motion of the organ, &e., &c., in whieh rest, change of air, tonics of various descriptions, particularly iron, and other means, had failed, we have latterly administered belladonna internally, with the very best effect, in doses varying from the sixteenth to the sixth of a grain three times a-day, given in the form of a solution. It may appear strange, but it is nevertheless true, that in some cases of old and inveterate photophobia, as in that form aceompanying pannus. or the ophthalmia attended by vascular eornea in discharged soldiers, the internal use of belladonna will be found most effieaeious.

We quote the following from a reeent number of the *Gazette des Hopitaux* :—" For a long time M. Berard has employed in his praetice at La Pitie, in plaee of the extraet of belladonna, eollyria containing the active prineiple of belladonna, atropia. This substanee, signalised for the first time by M. Brandes, who had not, however, obtained it in its pure state, but sinee isolated by MM. Meire and Seines, presents many advantages over the extract of belladonna; first, by aeting with extreme rapidity in dilating the pupil, and by being endowed with great energy, suffieient to produee its effect in a solution of 0·05 or 0·10, in twenty grammes of distilled water, possibly a consideration of little importanee in an hospital, but of great value in private praetice in enabling one to avoid the employment of black unctions, which disfigure so much, and for whieh some patients, partieularly females, have a great repugnance."

Dublin Quarterly Journal of Medical Science, Nov. 1846, *p.* 553.

160.—*On the Treatment of Syphilitic Inflammation of the Eye.*—By Dr. Jacob, Dublin.—[In the treatment of syphilitie inflammation of the eye, mercury is the grand remedy; it not only acts as a specifie in eradicating the disease of which the iritis, &c. is only a symptom, but as in ordinary ophthalmia it prevents those morbid changes of structure which would injure or destroy the funetion of the organ. Fifteen years ago, Mr. Carmiehael, of Dublin, ealled the attention of the profession to the use of turpentine in these eases, but, from the well-known effects of mereury in syphilitie diseases, and its consequent peculiar adaptation to cases of this kind, turpentine has scarcely had the trial it ought. Dr. Jaeob observes he has not fairly tested its use, having only given it as an auxiliary, or where mereury had failed, or could not, from idiosyncracy or other cause, be introduced into the system. Dr. Jacob quotes from Mr. Carmichael's Essay, published in 1829, as follows:]

The attention of the profession has been in so many instanees directed to the administration of turpentine in peritoneal inflammation, that the claims of that medieine to our notiee, as a valuable remedy in this complaint, may at present be eonsidered fully established. The number of cases reeorded in the different periodieal journals whieh have yielded to its exhibition, render it unnecessary here to make any further remark on the subjeet.

If we observe the nature of the parts which are the seat of peritonitis, the deseription of inflammation that engages them, and the subsequent morbid appearances, and eompare all those circumstanees with those to be met with in iritis, strong grounds will, I think, appear for presuming that in many points a striking similarity may be traced between them; in both a serous membrane is engaged, and in both the adhesive inflammation is to be seen producing adhesions between surfaces intended by nature to be free. It is true that the

two diseases occur in parts of the body very different from each other in many respects; and it is likewise true that this material difference is supposed to exist between them—namely, that while peritonitis is a simple idiopathic disease, iritis on the contrary, in its different varieties, but particularly in that which follows syphilis, is thought to proceed from a peculiar constitutional taint, and consequently to participate in its peculiar nature: but even admiting this difference, their characters nevertheless unquestionably coincide in these essential points, that in each the adhesive inflammation, and its consequences, are the morbid appearances to be observed.

Under this impression I was induced to make trial of turpentine in iritis, conceiving that where such similarity of appearances were met with, as those just mentioned, a medicine possessing any control over them in the one situation, might probably be productive of some benefit in the other; a few cases were, therefore, submitted to its influence, and the results were such as to confirm the idea I had formed: the first trial was in 1824.

I use the turpentine in this complaint in drachm doses, given three times a day. Its disagreeable flavour and nauseating effects I have found best obviated by almond emulsion. This circumstance it is very necessary to attend to, the medicine being so unpleasant, that, if its taste be not in some way disguised, it is difficult to depend on patients taking it with the necessary regularity. In the formation of the emulsion if double the quantity of confection directed in the London pharmacopœia be employed—that is, two ounces to the half-pint of water, it answers the above objects much better: the residuum may be removed by straining.

With an emulsion so made, the following is the formula I now generally adopt:

℞. Olei terebinth. rectificat. ℥i. Vitelli unius ovi tere simul et adde gradatim. Emulsionis amygdalarum, ℥iiij. Syrupi corticis aurantii, ℥ij. Spiritus lavandulæ compositæ, ʒiiij. Olei cinnamomi guttas tres vel quatuor.

Misce, sumat cochlearia larga duo ter de die.

In a few cases it has been necessary to increase the quantity of turpentine to an ounce and a half, or two ounces, in the above mixture, the other ingredients being proportionally diminished, so that a drachm and a half, or two drachms of it may be taken each time; but in general, when administered to the extent directed in this formula, it has very seldom indeed failed, though extensively tried, and in very urgent cases: the instances of its failure shall presently be noticed.

The strangury, so frequently induced by the internal use of turpentine, is obviated by the usual means—flax-seed tea and camphor julep; when very urgent, the medicine may be suspended for a time. The tendency to acidity in the stomach, which it sometimes

causes, is relieved by the addition of carbonate of soda to the mixture; ten or fifteen grains to the eight ounces will be sufficient; some patients have said, the taste was further disguised by this addition.

When the local inflammation is high, and acute pain is present in the eye and side of the head, the abstraction of blood from the temple by cupping, or the more immediate seat of the disease, by leeching, may be resorted to: the same practice is adopted where mercury is used. Nevertheless, I have frequently, when these symptoms were very urgent, relied solely on the turpentine mixture, and with the most decided and expeditious relief; indeed, in some instances, where the pain and hemicranium existed as acutely as they are perhaps at any time to be met with, patients have declared they were considerably relieved after they had taken it once or twice, and that its subsequent exacerbations were lessened in a very remarkable degree. It is in the former cases I have generally found it necessary to follow up the bleeding by increasing the quantity of the turpentine.

It is highly necessary to observe, that the condition of the bowels will require attention; the beneficial effects of the medicine appear to be in certain cases suspended when constipation is present, and are called forth, as it were, when this is removed.

Perfect rest, if not absolutely material, will at least be found most conducive to the complete production of its salutary effects. In a few cases where patients, from their particular situations in life, were obliged to continue in active employment, the same satisfactory results did not follow its exhibition, nor was its influence fully established until this was attended to.

When all the other symptoms of the disease have subsided, except a slight remaining indistinctness of vision, I do not consider it necessary to continue the medicine farther; some time is generally necessary for the complete removal of this; but the powers of the system may be relied on for its accomplishment. Wherever I had an opportunity of examining patients who had been dismissed with this indistinctness of vision, I have always found them to have been quite relieved from it a short time after they were so discharged.

In some of the following cases, particularly the first of them, it will be seen that sedatives were employed along with turpentine, such as opium, henbane, and cicuta; but it is almost needless to add, that they could not have any share in the cures which took place in these cases. The same description of medicine—namely, opium is also used, and pretty extensively. when mercury (calomel) is the treatment adopted; but the removal of the disease under it is entirely attributed to the latter, the former being conjoined with it for the purpose of detaining it in the alimentary canal, and thereby promoting its absorption into the system; or it may also have the effect of allaying severe pain, and with which view they were exhibited in the cases they were here employed in; in this way they may sometimes be serviceable.

By these means the administration of turpentine has very seldom indeed failed in effecting a perfect cure, the amendment being generally quite perceptible the day after it had been commenced with, as may be readily conceived, from the well-known quickness with which it pervades the system: I must, however, observe that, in a very few instances it was not attended with such marked success; and, although in my own opinion, its failure in them may be attributed to other causes than its inefficacy, I consider it right, however, to notice them here.

In the syphilitic, as already remarked, its effects appear to be most decided; I mean when accompanied by those symptoms already mentioned, and which are considered as characterizing that species of iritis, relying very much on it in those attended with low and partial inflammation of the sclerotic coat.

On the other hand, in a few cases where this inflammation was very acute, of a florid red colour, deeply and extensively engaging that membrane, the conjunctiva also inflamed, so as to form a network of vessels, obscuring more or less the former tunic from view, and instead of forming the zone, already mentioned, at a short distance from the cornea, encroaching thereon. I did not succeed in completely removing the complaint by its administration, though it certainly arrested its progress.

Again, in that description which occurs after fever, it sometimes was not satisfactory in its results. However, in making this statement, I must remark, that in many cases attended by the above appearances, it has effected a perfect and decided cure, and in several of those following fever, when mercury and all other means were unsuccessful, its removal was ultimately accomplished by the use of turpentine alone.

But in speaking of those few unsuccessful cases, I have to observe on the difficulty so frequently experienced in dispensary practice, where I principally made my observations on this subject, in having our directions attended to with that strictness which may enable us to form correct opinions on the effect of any medicine. I have witnessed this negligence even in hospital practice, and had some doubts of the result for a time, till close attention discovered the medicine was not regularly taken by the patient, and on enforcing its administration in the mode I directed, the usual beneficial consequences followed; I am therefore led to imagine in those cases where turpentine did not succeed, that its failure is to be attributed to neglect on the part of the patient, rather than want of efficacy in the medicine; for without this explanation how can we account for the very same description of cases being attended in others with decided and complete success. If, however, the fact be, that some cases are not quite amenable to its influence, I am at present unable to make a distinction further than I have stated: perhaps future trials may enable me to be more explicit. Can idiosyncrasy be the cause, rendering the turpentine in these particular cases less efficacious than what it generally is?

However this may be, in introducing to the profession a description of treatment which is novel in the disease, I think it necessary not only to give a full account of the manner I have conducted it, but likewise the true results derived from it, according to my experience; and I have therefore stated, that in some few cases, (and these very few) the administration of turpentine was not attended with the decided success I generally found it to obtain in others, and have also described the appearances which presented themselves in the unsuccessful cases.

The great error generally committed by persons bringing forward any new mode of treatment, or medicine, is a too sanguine description of its supposed powers, the representation of which is sometimes found not to be supported by experience. The consequence of this is, that, if upon trial it does not uphold the exact character for which it has been attempted to be established, it not only falls into disrepute, but may not even be allowed the credit it fairly possesses, whereas, had correct statements been made of its defects as well as of its merits, future investigation would ascertain how far it could be trusted, and thus remedies, though not general in their application, might, with much advantage and benefit, be retained as adjuvants in the cure of certain diseases.

Although, therefore, I have found the administration of turpentine in cases of iritis generally, to have been attended with very extensive success, and far beyond what would entitle it to rank as an assistant in its cure, still, as in some cases which were submitted to it, the same satisfactory results did not follow, I think it but right to mention it here in the manner I have done.

Dublin Medical Press, July 1, 1846, *p.* 2.

161.—*On the Treatment of Gonorrhœal Ophthalmia.*—By John Walker, Esq., Surgeon to the Manchester Eye Hospital.

It is my opinion, says Mr. Walker, that the antiphlogistic treatment of purulent ophthalmia is both useless and improper. I have never myself employed bleeding, either generally or locally, in any of the cases of this affection which have come under my own care within the last thirteen years. Having for some time previously been in the habit of witnessing the admirable effects of stimulants in the treatment of some other varieties of conjunctivitis, it seemed to me that they might be equally serviceable in the disease in question; and I believe I was the first to employ the nitrate of silver, *in substance*, in this variety of ophthalmia; at least no published statement of it had appeared at the time when my paper, detailing some cases in which it had been successfully used, was published (in 1830). The result, as regards my own mind, from my practice with this article in substance is, that I have great confidence in my ability to check by it the progress of the affection; and, at the same time, a conviction that very few, if any, cases of it will terminate unfavourably if this treatment be resorted to before any deep-seated ulceration or sloughing has commenced. The application of the

nitrate in substanee is easily made. Expose the eonjunctival surfaee of the inferior eyelid, and then draw the stick, pointed like a pencil, *lightly* across it. The application is always produetive of increase in the lachrymal discharge, and a severe smarting sensation, which usually continues from half an hour to three or four hours. At the expiration of that period the uneasiness subsides, and a decided improvement is soon perceptible in the condition of the eye.

Medical Times, May 16, 1846, *p.* 129.

162.—*Ptosis.*—By J. F. France, Esq., Guy's Hospital.

It is interesting to inquire the reason of the peculiar liability of the motor oculi to paralysis, apart from other nerves of the orbit; for such cases as the nine first detailed. wherein this nerve was singly paralytic, are very frequent. This is evidenced by the number falling, within a comparatively brief period, under my individual observation; but my own experience upon this point is only corroborative of that of others; and it simply needs attention to be directed to the subject, to derive ample confirmation of the fact—that the third nerve is remarkably prone to paralytic affeetion—from a casual stroll through any erowded district: indeed, the diplopia of supervening inebriety is an exemplification of it. The third nerve here exhibits its aptitude for paralysis, by being the first to discover impairment of function; whence, early in his intemperance, the individual, *qui studet calicibus epotandis*, perceives this apparent duplication of objects, the mere result of his inability to converge the optic axes properly upon them.

Ptosis is described to be often produced by a rheumatic affection, (as paralysis of the facial nerve has followed long-continued exposure to currents of cold air); and there can be no doubt of the competency of such a eause to produee it: yet the uniformity with which, as just noticed, the complaint was traceable, in the above cases, to intra-cranial disturbance, would seem to invalidate the probability of a rheumatic origin being common. Even to suppose, however, that paralytic ptosis is in general rheumatie in its nature, would not at all tend to the solution of the question,—why the motor oculi should so often be selected to suffer, and to suffer alone.

This circumstance must, I apprehend, of necessity be ascribed to some constant predisposing condition of the nerve (one existing, therefore, in the state of health), brought into action as an element of disturbance when a morbid tendency has arisen. If the fact be so; and if, in the majority of instances, the disease arise, not from a rheumatic or other locally acting impression from without; nor from derangement of any kind within the orbit,—for when the entire nerve is paralysed, we naturally look for a cause situate posterior to its distributive expansion, upon entering that cavity; nor from disturbance in the passage of the nerve through the lacerated foramen,—where, from its close apposition with the sixth and nasal branch of the fifth, we can hardly conceive a paralysing influence from which the latter nerves should be exempt;—if such be the ease, we are constrained to seek such predisposing eondition, in other words, such anatomical arrangement, within the eavity of the

cranium, where we have already seen reason to fix the efficient or immediately exciting cause of the malady.

Now, directed as we are, in this way, to the intra-cranial course of the motor oculi, for the probable source of its pre-eminent tendency to paralytic affection, it seems to me not difficult to assign, in this situation, a satisfactory explanation of the fact. We find the nerve, almost throughout this track, in the immediate vicinity of those which must be regarded as very dangerous allies: first, hooking round the posterior cerebral artery, to traverse the narrow interval between that vessel and the superior cerebellar; then running forward nearly parallel to the posterior communicating artery, in a degree of proximity, the occasional mischief of which is demonstrated by the necroscopic examination, and then crossing the termination of the internal carotid, immediately on its outer side, and closer to it than any other of the nerves contained within the cavernous sinus.

The sixth nerve, it is true, is previously in actual contact with the coats of this vessel; but running along the floor of the sinus, must, in a great degree, be secured from pressure; as, from the upward direction of the current of blood, the horizontal portion of the carotid must be rather raised from, than pressed against, the inferior wall of the sinus upon each contraction of the left ventricle; and, from the same cause, the inferior wall of the artery itself must be, mechanically, the least liable to morbid distention, or rupture. That nerve, however, sometimes suffers like the third, as in the subjoined case; in which it may, with considerable probability, be surmised, that the point of nearest approach to the carotid, was the point where its integrity was destroyed. The partial character of the defect in vision would seem rather to indicate disorder of the retina than of the optic nerve.

James D———, aged 24, an excavator, and habitual drunkard, was admitted April 11, 1845. About a month previous to his application, after a fit of intoxication, the left eye first became affected with squint; and the double vision, which this produced, incapacitated him for continuing his labour. He was, at the same time, attacked with headache of considerable severity, vertigo, and tinnitus; all which symptoms occasionally recurred, up to the time of his admission. At this period, the motions of the right eye and lids were perfect, and the pupil was active; but vision misty, especially in respect of objects below the level of the eye. The left eye and lids likewise enjoyed their normal motions, with the exception of that of abduction; the globe constantly maintaining the position of adduction, from which it could not advance to the central position, whether the opposite organ were opened or closed: the pupil was active, and corresponding in size with the right pupil, and the vision perfect. Diplopia had ceased after a week's persistence; and the patient was free from any other paralytic affection than that of the rectus oculi externus. He was ordered,

Coloc. c. cal. gr. x. statim; pil. hydrarg. gr. v.; pil. opii. gr. $\frac{1}{4}$ nocte maneq.; empl. lyttæ nuchæ appl.

The remaining pain in the head was soon removed; but after continuing in the hospital about a month he was discharged, without having regained in any degree the power of abducting the left eye.

The circumstances, above adverted to, respecting the relative anatomy of the nerves of the third pair will go far towards elucidating the cause of their remarkable proneness to paralysis; for it is evident how direct must be the deleterious influence upon their function of any temporary or permanent enlargement of, or effusion from, any portion of the arterial tubes, with which they are in so close proximity.

It may be objected to this view, that it is rather a general rule throughout the body, than a particular arrangement in the instance under examination, for nerves to accompany blood-vessels: but a thought upon the peculiar condition of the parts contained within the unyielding bony parietes of the skull will suffice at once to deprive the objection of force. No one of these can, by morbid growth, or extravasation from its walls, assume the occupation of a space, in the most trifling degree, larger than is healthily its due, but by more or less detrimental encroachment upon some neighbour; which, owing to the unaccommodating nature of the cranial parietes, cannot, as in other situations, slip aside, and thus elude the injury. Of course, when such an enlargement or extravasation occurs, the part nearest at hand will *cæteris paribus*, suffer the earliest and the most severely; and hence, I believe, it is, that we so often find the power of the motor oculi impaired, or entirely destroyed, without any other nerve apparently partaking in the derangement, or, at least, partaking in equal degree.

The course of treatment pursued demands but little observation, as the general principles upon which it was conducted are commonly recognised. One only remark I would venture; it is, that considerable reserve in the use of direct depletion is commonly most in accordance with the principles of sound practice. The two patients in whom venesection was adopted before their application at the hospital, experienced very questionable benefit from it; while the milder measure of cupping, followed up by the use of mercury proportioned to the powers of the patient, evacuation of the bowels, restricted diet, blistering, &c., and, subsequently, a guarded resort to tonic medicine, were productive of very decided advantage.

A few words may be bestowed upon operative measures. The idea of subjecting an eyelid, abandoned by its proper levator muscle, to the influence of the occipito-frontalis (which is capable of being converted into a substitute of no despicable efficiency), was, I believe, first suggested and put into practice by Mr. Hunt, of Manchester; and the operation has been subsequently advocated and repeated by Mr. Curling. In the present instance (the only case in which I have employed it), it certainly proved serviceable. The improvement in the patient's personal appearance was great, and highly gratifying to herself; for she had regained the power of

keeping the eye open, and thereby become relieved of the disagreeable semi-cadaveric aspect previously borne. Had the division of of the external straight muscle rectified the position of the globe, the result would have been still more satisfactory; but that it was not followed by this effect, after five months' maintenance of the state of abduction, and in the absence of any adductive power, was no matter of surprise. The patient, for three months prior to her application at the Eye Infirmary, had laboured under complete paralysis of the muscles supplied by the motor oculi; a seven weeks' trial of medicinal resources was not too long a preliminary to the operations; and it was expedient to ensure the success of that intended for the cure of ptosis, before having recourse to the less promising one, the possibility of advantage from which was altogether contingent upon the success of the former. I think the operation for ptosis,—which essentially consists in supplying the deficiency of one paralytic muscle, by adapting another, deriving nervous influence through a different and unobstructed channel, to its office,—most scientific and ingenious in conception: in execution it is easy; and in cases, where personal appearance is an object—medicinal resources, patiently tried, have failed—and there seems no reason to apprehend any further cerebral disturbance, its careful performance is decidedly indicated. The performance of the operation, trifling as it may appear, must be careful; for if the portion of skin to be removed is not first very accurately calculated, by nipping it up with a pair of entropeon forceps, and then testing the ability of the patient to close the lids completely, as well as open them, the very obvious danger is incurred of cutting away too much integument, and creating, in consequence, a strictness of adhesion between the brow and superior palpebra, which will prevent the apposition of the lids in sleep, and establish a liability to all the deplorable consequences of obstinate chronic conjunctivitis.

Guy's Hospital Reports, 2nd Series, Vol. IV., p 53.

163.—*Case of Congenital Opacity of the Cornea.*—By Dr. P. W. Maclagan.—[The wife of a private soldier was delivered of a blind child. Fourteen hours after birth, its eyes are reported in the following state:]

On neither was there the slightest trace of vascularity or purulent discharge; the left cornea was completely opaque; the sight was in the same condition on its inferior two thirds, but the upper third was clear, the opacity terminating by a tolerably fine edge. At first the narrator thought that he could perceive this edge to change its position as the child's head was inclined to one side or the other, which led him to suppose the opacity resident in the aqueous humour; but this he found to be a mistake. Never having seen such a case, and not being able to hear of one, he was lead to form an unfavourable prognosis: but in this he was agreeably disappointed: for in a few weeks the edge of the opacity on the right cornea began to thin off, to become less defined, and at length to recede, so

that a part of the pupil could be seen on looking straight at the edge, while at first it could only be observed by looking from above. It was long before any change could be perceived on the left eye; but in January, three months after birth, it soon began to improve—the opacity at the upper part of the cornea becoming more diluted looking, and by degrees disappearing. At this time it was curious to observe the infant instinctively depressing the eye-ball when any bright object was held before it; so as to permit its image to fall through the upper portions of the cornea. When Dr. Maclagan was removed from that part, in March, there was only a small portion of the right cornea opaque, and the upper part of the left was tolerably clear, so that the child directed the eyes forwards, and not, as formerly, downwards. He has great hopes that the opacity may disappear entirely, or at least so far as to leave vision unimpeded. The author refers to some remarks on this subject which he has since read in Braithwaite's Retrospect. One thing he thinks may be drawn from all the cases recorded, viz. that the opacity has a great tendency to cure itself, if left alone.—*London and Edinburgh Monthly Journal of Medical Science.*

Medical Gazette, July 24, 1846, *p.* 172.

164.—*On the Employment of a Collyrium of Turpentine in the Treatment of different Diseases of the Eyes.*—By Dr. S. Laugier, Surgeon to the Hôpital Beaujon.

Dr. Laugier commences by stating, that the employment of turpentine, in inflammations of the iris, is already well known, and that its virtues have been ascribed to the power, which it is said to possess, of causing absorption of false membrane in serous cavities. But it is to its external use that he at present wishes to direct attention. He says that he was led to make experiments upon it, by learning the good effects of the essence of junipers, in cases of chronic corneitis, under the care of M. Serres d'Alais.

He commenced his experiments upon some patients who had been using a collyrium of the nitrate of silver, and in whom a manifest improvement took place in a few days, under the use of the turpentine. He then tried it in some acute diseases of the conjunctiva and of the cornea, in patients who had not had any other treatment, and with the same good results. In support of his views, he relates six cases treated in this way; three of conjunctivitis, accompanied with slight tarsal affections; one of scrofulous corneitis; and two of conjunctivitis with corneitis, in all of which the remedy acted well.

His manner of preparing collyrium is, to heat slowly in a marble mortar two parts of Venice turpentine, and when it has become fluid, to add one part of the oil of turpentine in small quantities at a time; of this, he instils three or four drops between the eyelids, night and morning. He says that the oil of turpentine may be rubbed up with any fatty body, and used as an ointment, but he prefers using the mixture by itself.—*Archives de Médicine.*

Monthly Journal of Medical Science, Nov. 1846, *p.* 373.

MIDWIFERY,

AND

THE DISEASES OF WOMEN.

165.—ON THE INFLUENCE OF GALVANISM UPON THE ACTION OF THE UTERUS DURING LABOUR.

By Dr. Simpson, Professor of Midwifery in the University of Edinburgh, &c.

[Some years ago, attempts were first made to stimulate the uterus to contraction by means of galvanism; indeed, this was the object which induced Kilian to have his forceps constructed of different kinds of metal, so as to exert a dynamic influence upon the uterus, by exciting galvanic action whilst in contact with that organ. Mr. Ramsbotham, in 1834, proposed the application of galvanism to excite the flagging powers of the uterus during labour, and Dr. Radford has recently proposed and practised the application of galvanism to induce tonic contraction of the uterus, in extreme cases of exhaustion from hæmorrhage. Professor Simpson observes:]

In some instances, and especially where the process of parturition is lingering, the contractile efforts of the uterus occasionally diminish in power, or even altogether cease, and again more or less suddenly or gradually recommence, without our being able to trace out any appreciable cause—mental, vital, or physical—of a nature sufficient in any way to account for the variations which the labour-pains seem to undergo. Besides, the uterus, particularly during labour, is well known to be very readily, and sometimes very powerfully, influenced in its parturient action, by mere states and emotions of the mind alone; and through the medium of the excito-motory system of nerves, the simple application of cold, and other forms of chemical and physical irritation to the surfaces of the abdomen, vagina, cervix uteri, &c., is frequently and strongly capable of stimulating and increasing the contractile functions of this organ. In attempting, therefore, to ascertain the exact influence of galvanism itself upon the uterus during parturition, these and other sources of fallacy in such an investigation must be necessarily, as

far as possible, guarded against. With this view, I sometime ago planned and instituted a series of experiments, the results of which I now propose to state.

The experiments were begun for the purpose of ascertaining, as far as possible, the exact degree of influence which galvanism possessed over the contractile action of the uterus during labour, and consequently the amount of aid which we might expect to derive from this power, in any case in which we had recourse to its assistance. I did not in the first instance doubt, (as I was afterwards led to do by the results of the experiments) the actual oxytoxic influence of galvanism. I believed in its actual existence, and was merely anxious to ascertain and fix its actual amount.

A little consideration will readily show, that any agent capable of increasing the parturient action of the uterus, may produce that result in one of three ways. First, It may increase the force or intensity of the pains, without increasing their duration or frequency. Secondly, It may increase the duration of the pains, without increasing their intensity or frequency; and, thirdly, It may increase the number or frequency of the pains that occur within a given period, without increasing either the intensity or the duration of the individual pains themselves.

We have evidently little or no power of measuring the existing amount of uterine action by any observations upon the supposed mere intensity of individual pains. The sufferings of the patient, as marking this intensity, would, no one can doubt, prove a most inadequate and fallacious guide in such an inquiry as the present. But we have the power of measuring, with the stop-watch, the number of pains that recur within a given time, and the actual duration of each pain as it occurs; and these two criteria certainly afford us ample and sufficient means for ascertaining and determining the actual amount of parturient action that may exist within any prescribed period.

In the experiments which I have to detail, we measured the amount of parturient action that was present at different limited periods,—first, by the length or duration of the individual uterine contractions or pains; and, secondly, by the number or frequency with which they recurred within these periods.

[In the cases recorded by Professor Simpson, the galvanic current was used as strong as the patient could bear. The apparatus made by Messrs. Abraham and Dancer, of Manchester, and employed by Dr. Radford, was used, consisting of a brass stem, seven inches long, and covered with a non-conducting material to near its uterine extremity.

The notes of the cases are drawn up by Dr. Martin Barry, who was at that time house-surgeon to the Royal Maternity Hospital, in which six of the cases occurred. An analysis of the cases shews the following results with respect to the frequency in recurrence of the pains, and length of their duration:]

1. *Frequency of the Pains.*—In two cases (1st and 3rd) the interval between the pains was least, and the pains themselves were consequently most frequent during the second period in the observations, namely, when the apparatus was simply applied, and before the galvanism was used. In case 4th, they were most frequent during the period following that in which the galvanic action was put in force; and in case 6th, they were most frequent during the first period, or previously to either the apparatus being arranged, or the galvanism applied.

2. *Duration of the Pains.*—In one case (1st), the pains were longest during the second period, when the apparatus was applied without the galvanism; in another (4th), they were longest in the first period, or before any experimental applications were tried; and in two others (3rd and 6th), they were of the greatest length during the period subsequent to the removal of the galvanism.

On the whole, the length of the pains and of the intervals was changed and modified in only a slight degree, in these four cases, by the arrangements and applications adopted during the four periods. But in not one of these four cases were the pains either most frequent in their recurrence, or longest in their duration, during the period of the employment of the galvanism, and whilst the galvanic current was passing through the uterus.

The two remaining cases (the 2nd and 5th) were, as I have already stated, somewhat exceptional, and that in two opposite directions.

In case 2nd, during the period that the galvanism was applied, the pains were less in their duration than at any other of the three periods—but the intervals between them were also less; or, though shorter in length under the galvanic action, they were more frequent in their recurrence.

In case 5th, the result was different from what it was in any of the other six instances—for, as I have already stated, subsequently to the completion of the galvanic circle, only one pain occurred, and then uterine action entirely disappeared during the twenty-three minutes that the galvanic current continued to be passed through the body of the patient. The result was rendered only the more remarkable by the fact, that the uterine contractions and pains were regular before the galvanism was applied, and again became regular as soon as the galvanic influence was removed.

In some of the cases detailed, the labour was of a very protracted nature, and, consequently, presented so far exactly one of those conditions in which, as suggested by Herder, and by Drs. Ramsbotham and Radford, the galvanism would probably be useful in strengthening and increasing the pains. We have seen this result unfulfilled. Last year, in two cases of very lingering and difficult labour occurring, the one in consultation, and the other in my own private practice, I took a further opportunity of attempting to increase the defective action of the uterus by the influence of

the electro-magnetic apparatus, and in both instances has signally failed in producing any beneficial effect.

[Dr. Simpson adds:]

The *general results* obtained from the employment of galvanism, in the eight cases which I have detailed, may be summarily stated as follows:—

In one instance (Case 2), the pains were more frequent in their recurrence, but shorter in their duration during the application of the galvanism. In five other cases (Cases 1, 3, 4, 6, and 7), the employment of the galvanism neither increased the average frequency of the pains, nor their average duration. In one (Case 5), the pains ceased whilst the galvanism was applied, and returned upon its removal. In the instance which I have last detailed (Case 8), the uterine action ceased while the galvanism was applied, and did not return upon the withdrawal of the galvanic action, nor for twenty-four hours subsequently. There was no reason whatever at the time to expect this as a probable occurrence, independently of the galvanism. But even admitting, for the sake of argument, that the cessation of the uterine action was not the result of the galvanic influence used, still the fact is amply sufficient to show that the galvanic current had not, at least, the power either of increasing the pains, or even of continuing and maintaining them when they offered to fail. It may be proper to add, that during the galvanic action, in none of the experiments did Dr. Barry or I find, in the intervals between the *clonic* uterine contractions or pains, any evidence whatever of unusual *tonic* contraction of the uterus, as shown either by any degree of hardness in the general uterine tumor, or by any degree of tension in the pressure of the bag of membranes or the child's head against the cervix uteri.

It would be hasty and logically incorrect to deduce from the preceding observations, that under no modification, and under no manner of application does galvanism possess the power of directly exciting or increasing the contractile action of the uterus. Forms or methods of employing it may yet possibly be detected or devised, affording a different result. But I believe I am justified in inferring from the preceding inquiry, that as employed at the present time, and in its present mode, it is not a means which can be in any degree relied upon for the purpose in question; and is so far practically and entirely useless as a stimulant to the parturient action of the uterus.

In stating the above conclusions as the result of my own experience, I, of course, by no means wish to impugn, in any way, the validity of the observations made in one or two isolated cases by others, and in which an opposite effect was supposed to be obtained under the employment of galvanism during labour. Uterine contraction may certainly have become occasionally increased while the galvanism was being used, but I strongly question if that increase was the result of the galvanic agency. I have already hinted, towards the commencement of this communication, how

much and readily the existing degree of uterine action may be occasionally modified by the state of the patient's mind, or by other still more unappreciable conditions, and how greatly it is in some cases influenced and excited by the application of cold to the surface of the abdomen, or of mere mechanical irritants to the mucous surfaces of the vagina and cervix uteri. The use of so portentous an apparatus as the electro-galvanic machine, may certainly sometimes influence the uterus through the mind of the patient, by raising feelings of hope and confidence in the results; or the application to the skin of the abdomen, of the wet sponge attached to the external conducting wire, may excite uterine contraction by reflex action, upon the same principle as cold thus used very generally leads to this effect, both during labour and after delivery. The mere galvanic irritation of the skin or muscles of the abdominal parietes may possibly produce the same result, without the uterus being itself directly influenced by this agency. Or, lastly, and principally, the mere introduction and mechanical irritation of the "vaginal conductor" upon the surface of the vagina and cervix uteri will, I doubt not, occasionally excite more strong and powerful uterine pains, in the same way, and upon the same principle, as the mechanical irritation of the fingers, or of the lever or forceps, certainly sometimes produces the same consequence.

Monthly Journal of Medical Science, July, 1846, *p.* 33.

166.—*Twin Case of Difficult Labour; from Impaction of the Heads.*—By E. W. Eton, Esq., Resident Surgeon, Windsor Royal Dispensary.—[Mr. Eton was called to a case in which the patient was attended by a midwife. The pains had been very severe for ten hours, but had not forwarded the labour; the os uteri was pretty well dilated, and the hip and elbow presenting, the latter uppermost, and to the sacrum. Mr. Eton waited a little while for the soft parts to become further relaxed, and to allow the uterus the chance of changing the position of the child—this however, did not occur, and as he saw the patient was becoming exhausted, he proceeded at once to bring down the feet. He observes:]

The feet were soon seized, as they lay low and forward; they were turned towards the sacrum. A dose of ergot was then given for the first time. After the thighs had passed, the delivery became slow and increasingly difficult; the abdomen suffered great compression in passing, the thorax still more; the difficulty became greater with the further progress of the body; the arms were extracted with much trouble, and it then being practicable an examination was made. I found the vertex of a full-sized head presenting immediately over the breast, in the position where there should have been a chin; the anterior base of the neck could be traced in close and compressed contact with the presenting head, the latter firmly impacted in the pelvic cavity.

The deficiency of the liquor amnii at once occurred to my mind, and a hand on the abdomen confirmed the impression that the case was one of twins, in which both ova had been ruptured, and the head of the second child had descended into the pelvis, between the head and body of the one so nearly born. The new circumstances which obstructed delivery rendered its necessity only more urgent, and to the physical impediment was added the danger of subsequent collapse, never to be lost sight of, with plural births. Though the pains had some force, they were not to be relied on as any great proof of constitutional resources, resulting as they did immediately from stimulus; but even attributing better powers to the patient than she had exhibited, supposing so large an amount of mechanical obstruction could be overcome by natural or assisted efforts, the resistance of the outer parts in a first case was to be looked for, in this increased by the extended chest and shoulders lying within the orifice, and tending necessarily to throw the presentation the wrong way,—viz., against the rectum; whilst the efforts of the uterus would be at the same time forcing the other head against the bladder: if life were preserved, deplorable injury could only be anticipated.

To leave the issue, then, to the possibility of nature effecting the delivery in the state of my patient, was out of the question. Three modes of relief offered:—1. to push the head back; 2. to open it; 3. to truncate the extruded body. The first was impracticable; the second, added to the sacrifice of the only child for which there was a hope of life, the conclusive objection that its purpose would remain unaccomplished, as the head, even diminished, would still be an awkward and dangerous obstacle in the way; the third combined the greatest safety for the mother, and a chance of existence for the preserved surviving child.

The separation was made about the seventh cervical vertebra, the finger guarding the knife; the neck, which was left smooth, was then pushed up; it passed easily, and a perceptible fall of the presenting head resulted. The forceps were then applied laterally, and delivery effected at three o'clock, P.M. A non-contractile state of uterus required the cold dash, and it was some time before the viscus could be safely cleansed of its contents. Brandy and ergot were freely administered, and no great amount of hæmorrhage took place. My attention divided between mother and child failed in restoring animation to the latter, though long and anxiously continued. Children were both large for twins, each measuring seventeen inches.

Medical Gazette, July 24, 1846, *p.* 152.

167.—*Presentation of the Right Shoulder with Protrusion of the Arm—Turning—Inutility and Danger of Mutilations in similar Cases.*—By Professor Paul Dubois.

A woman, aged forty-four years, who had given birth to twelve living children, all of them having had head presentations, arrived at the period of her thirteenth labour. A midwife, who was called in just as the membranes had burst recognised a wrong position of the infant, and sent for two practitioners, who detected a presentation of the shoulder, made useless efforts at reduction, and at length sent the patient to the Clinical Hospital. On rising up. the woman felt something protruding between the thighs. On admission, M. Dubois found the uterus strongly contracted on the child, and presenting in the region of the umbilicus two unequal prominences, the smallest of which, on the right side, and separated from the other by a depression, corresponded with the child's head. The right arm protruded at the vulva, the palmar surface in front, the thumb directed to the right side of the mother.

What should the practitioners who were first called to this woman have done? and what was to be done at present? were the questions asked by M. Dubois, and answered in the following manner:

It is to be regretted that there had been no interference when the position was first recognised; for the practitioners afterwards called in, increased by their efforts the irritability and contractions of the uterus, and thus augmented the difficulty. But the right cephalo-iliac position once recognised, what should be done?

The first plan that presented itself, was to remain a spectator of the labour, which might have been accomplished under two circumstances:—1st, If the head were not very large, and strongly bent on the breast of the fœtus, so that both would not present a greater diameter than that of the canal in which it was forcibly engaged. This might happen if the fœtus had been putrid, and thus rendered very flexible, 2nd, A spontaneous delivery might have occurred if the head were above the brim, and the shoulder placed under the symphisis of the pubis. The pelvis might thus have been gradually engaged, the nates freed the vulva, and the evolution be thus accomplished. But here examination showed that all the parts were contained in the false pelvis.

The second plan was detruncation. This operation would have become necessary, if the contraction had been carried to such a point that an impossibility of introducing the hand without risking a rupture of the uterus had resulted. In such a case it would be necessary to divide the infant in two, and extract the trunk, and then the head, which would not be difficult if the pelvis were well formed.

M. Dubois did not adopt either of these plans. He preferred turning the fœtus. But he did not attempt to push the head to the brim, as, in order to turn it, a certain space is required for the manœuvre. The turning of the pelvis in this case also presented some

difficulty, 1st, From the retraction of the uterus, in consequence of the previous evacuation of the waters, increased by the former attempts at turning; and, secondly, From the insufficient dilatation of the cervix uteri. This resolution being adopted, the patient was placed on a bed sufficiently elevated, in order that the accoucheur, in giving to his arm the curvature necessary to reach the feet of the infant, was not obliged to stoop himself. M. Dubois placed a ribbon on the arm of the fœtus, in order that during the manœuvre it might not become impacted in the brim, and thus embarrass the passage of the head. He then took a precaution which is too often neglected, and without which the connexion between the neck of the uterus and the vagina is very likely to be broken, namely, to support the fundus of the uterus by an assistant. M. Dubois now proceeded to turn, recollecting that the fœtus forms in the womb a kind of irregular ovoid, the feet directed upwards, leaving a space between the chin of the child, and symphisis of the pubis. In following the internal surface of the uterus, he wished to profit by this space, in a primary effort at arriving at the feet of the infant; but he was arrested at first by the constriction of the orifice of the uterus, which he surmounted by introducing one finger only, then two fingers, then three, and at length the entire hand. Even then M. Dubois could not reach the fundus of the organ, as its contractions were so strong, that, overcome by the pain, he was obliged to withdraw his hand, and it was only on making a second effort that he succeeded in bringing down one foot. But traction on this foot was of no avail, as the ribbon had been applied a little too high on this part. Whilst an assistant held the foot without, M. Dubois raised and pushed up the shoulder, which, elevating the trunk of the fœtus, and causing it to undergo a rotatory movement, soon disengaged the other extremity, and the labour was rapidly terminated.

The infant, as had been foreseen, was dead, and yet M. Dubois had not thought it proper to extirpate the arm which was expelled. He believes that all mutilation, even in a dead fœtus, ought only to be made if it be rational. Now, under the circumstances, it would be evidently useless, and even injurious, for the surgeon might operate on a living infant, believing it to be dead, as in a case which has been previously detailed.—*Journal de Med. et de Chir. Prat.* 1846, Janvier.

[Why was not a powerful dose of opium given before the usual manipulation was proceeded with.—Ed. B. R.]

Monthly Journal of Medical Science, June, 1846, *p.* 443.

168.—*Extra Uterine Pregnancy.*— By T. H. Yardley, MD. Consulting Physician to the Lying-in-Department of the Northern Dispensary.—The patient æt. 44, of leucophlegmatic temperament, accustomed to much exposure and hard work, applied for advice in the early part of August, 1844. She had considerable fever, accom-

panied with pain in the lower part of the abdomen, where a large tumor could be distinctly felt. It had been there for many years, and gave her very little inconvenience, except when she lifted heavy burdens, or took cold, and even then a few days rest and a mild aperient would remove the unpleasant symptoms. She refused to submit to the necessary examination to ascertain the extent and locality of the tumor. The usual antiphlogistic treatment was adopted.

Early in January, 1845, a large quantity of *purulent matter* was passed from the bowels; this discharge continued at intervals until July, when she informed me that small pieces of bone had come away with the pus from the bowels. On examination of these they proved to be bones of a fœtus; and, with considerable difficulty, I learned from her the following history of her case; of which she acknowledged to have intentionally kept me in ignorance for fear of having to submit to some unpleasant operation.

In 1830, after her marriage to her present husband, she became pregnant. The catamenia was suspended; her breasts enlarged; and she had nausea and morning sickness as in ordinary pregnancy, but no unusual or anomalous symptoms.

When near the term of usual utero-gestation she had a fall which was followed by violent crampy pains in the abdomen, but not like the labour-pains which she suffered in her subsequent confinement, and there was *no discharge per vaginam.* A physician residing in the neighbourhood was called in to see her: he, however, made no examination, and after directing an anodyne left her with the understanding that he was to be sent for if his services were required. He was not sent for; and though she suffered severely for several days, and was unable to leave the house for months, yet she never had any regular medical attendant.

She had no vaginal discharge for at least a year after this attack of pain, and at that time her catamenia returned; her health gradually improved, and early in 1834 she again became pregnant, and passed through the usual period of utero-gestation without the occurrence of anything unusual. My friend Dr. Noble attended her during her accouchement, and has kindly furnished me with the following account. "In looking over my note-book I find that on the 5th of the 10th month (October) 1834, I attended M. G. in her confinement with a still-born male child, at which time there was (apparently) a full-sized infant of a former pregnancy, in the abdominal cavity, extra-uterine.

I well remember that it caused much difficulty by the head of the extra-uterine fœtus slipping into the cavity of the pelvis, thus obstructing the passage of the last-formed child; but by constantly pressing up the head of the extra-uterine fœtus, the other child was delivered, though not living.

During the convalescence there was nothing very remarkable."

After she was delivered of this child, she says she became pregnant

two or three times and miscarried in the second or third month, but was not attended by a physician. Her general health, however, was very good, and she worked hard till August, 1844, a period of nearly ten years.

As the case was one of unusual interest, and the patient appeared in a critical situation, I called on Professor Hodge, of the University of Pennsylvania, who kindly gave his assistance.

On making an examination per rectum, the os femoris of a fœtus was found projecting into that cavity from an opening on its anterior surface, about four inches from the anus; and on examining per vaginam, the uterus was found pressed against the pubis by a large mass (evidently a sac containing part of a fœtus,) which filled up the posterior part of the pelvis and pressed the vagina forwards.

Dr. Hodge removed the os femoris and one or two small bones, but it was apparent that the soft parts of the fœtus were still firm, except where it was exposed to the air from the opening into the rectum. It was, therefore, deemed most prudent to wait till decomposition had produced such a solution of continuity as would enable us to operate with safety. The difficulty of the undertaking being greatly increased by the fact that the opening into the rectum was on the upper part of the sac, the main body of the fœtus lying below it.

Dr. Hodge visited the patient with me at intervals of two or three days, and at each visit removed such portions of the fœtus as could be separated from the main body without using imprudent force. During these operations, the patient became much exhausted, and appeared to suffer severely, particularly from the passage of sharp points of bone through the rectum.

After each operation, and on the intermediate days, the sac was washed out by passing a flexible tube through the opening into the rectum, and injecting a large quantity of tepid water. Tonics and a nourishing diet were also given to support her system.

About the middle of August, inflammation and suppuration took place in the perineum, and some small pieces of bone passed through the opening, and Dr. Hodge, by enlarging the aperture, extracted an os-ilium.

The space between the anterior part of the sac and the vagina had now become very thin, and as the head and a considerable portion of the fœtus still remained in the sac, which continued to recede still further below the opening, thereby rendering it still more difficult to remove the contents, it became a question whether it would not be proper to make an opening into the lower part of the sac from the vagina, and through that passage at once remove the remains of the fœtus: particularly as the strength of the patient seemed failing, and it appeared probable that nature would make the opening if we did not.

In this state of the case, Professor Horner was called in consultation. It was decided to continue to operate from the rectum as

heretofore; the dread of a troublesome recto-vaginal fistula being the principal objection to an incision from the vagina.

Dr. Hodge being called to visit an obstetric patient, Dr. Horner, at his request, proceeded to remove such portions as could be detached. The bones of the head were found separated from each other, and were removed with much less difficulty than had been anticipated, though their sharp edges caused much pain as they passed through the rectum. One of the thighs with the flesh on it was removed: and also the principal part of the spine united by the ligaments and muscles. During the passage of these large masses through the rectum, the abdominal muscles were called into action, and bearing-down efforts similar to those of ordinary labour were produced.

The process of removing from time to time such remains of the fœtus as could be extracted without injury to the mother, was continued for some weeks. Dr. Hodge punctured, from the rectum, a fluctuating tumor below the main sac, from which a quantity of bloody fluid escaped, but it contained no bones.

The patient began to improve early in October, and the sac, in which no bones could be felt, seemed to contract, although there was a good deal of thickening on the left side of the rectum. Mildly astringent injections were now thrown into the sac, and the patient encouraged to use exercise in the open air. From this time she rapidly regained her health and strength, and by Christmas she was *perfectly well.* The fistulous opening in the perineum was healed, and she was not conscious of any unnatural sensation in the pelvic region.

Many of the small bones were lost, but those which were preserved, are in the possession of Professor Hodge, of the University of Pennsylvania.

American Journal of Medical Sciences, April, 1846, *p.* 348.

169.—*On Inversion of the Uterus.*—By T. R. Mitchell, M.D., Master of the South Eastern Lying-in Hospital, and Lecturer on Midwifery in the Dublin School of Medicine.

In a former communication I stated that inversion of the uterus may proceed from other than mechanical causes, and that a certain condition of the uterus was necessary for its production, one portion being in a state of contraction, and another of relaxation.

It has also been stated, that the attachment of the placenta to the centre of the fundus uteri, together with the cord being inserted into the middle of the placenta, renders the female peculiarly liable to the accident on the application of the slightest force.

Mr. White, of Manchester, in his treatise, lays a great stress on this point, as well as on the danger to be apprehended of a like occurrence from the too hasty delivery of the child.

That this accident may also occur without any assignable reason, or spontaneously, the following case, which occurred in Dr. Ash-

well's practice, will sufficiently prove; and as there are some points, of practical importance connected with it, I shall not apologise for giving it fully:—

Spontaneous Inversion of the Uterus without Hæmorrhage.

The subject of this case was nearly forty years of age, had borne many children, and was compelled to work very hard at glove-washing. She had been seen several times by Dr. Ashwell in her former labours, and on one occasion she was all but dead from hæmorrhage, consequent on the expulsion of an ovum of only eight weeks. He saw her a very few minutes after the inversion had taken place. It was entirely spontaneous, for a friend who was with her during the labour, assured him that the midwife did not even touch the cord. The child was expelled very quickly, and the patient felt a sudden pain, and said that something else was coming. On examination, Dr. A. found the uterus completely inverted, with the placenta adherent, but no blood had been lost; the pulse was rapid; she was pale, and cold, and exceedingly alarmed. Strong gin-and-water was given, and an immediate attempt at reduction was made without removing the placenta; after considerable effort for more than ten minutes, the smallest part of the tumor could not be reduced. The placenta was then peeled off, and the uterus was returned, very little blood being lost. The syncope and quick breathing continued for more than an hour after the reduction, and it was not until sulphuric ether, ammonia, and brandy had been largely given that she entirely rallied. It was more than three weeks ere she had sufficiently recovered to resume her usual avocations.

There is one symptom in reference to this disease which I think of the utmost importance, and which should never be overlooked—viz., that we may have so great a prostration of strength after delivery, as to lead us to suppose that some serious accident has occurred, and yet not a drop of blood be lost more than ought naturally to occur; in fact, the presence of hæmorrhage is by no means a constant attendant on inversion.

I will suppose a practitioner called to the bedside of a woman in a state of syncope without hæmorrhage, upon what may this depend? 1st. The labour may have been tedious, and the patient faint from mere exhaustion. 2nd. From rupture of the uterus or bladder. 3rd. From internal uterine hæmorrhage; or 4th. From inversion of the uterus. How necessary, therefore, that he should at once be aware of the cause of syncope. In the three first to which I have alluded, the uterus may be felt over the pubes; in the last it cannot. As a general rule, it will be well in every case of doubt, at once to make a vaginal examination, as it has, ere this, occurred that the accident has not been detected until after the woman's death, or where it has not proved fatal until all chance of reduction has passed by.

In cases of this description, the accoucheur should be certain

that there is no escape of blood externally, to ascertain which, he ought not to be content with merely examining posteriorly, but in every instance he ought to look if any has escaped in front, as I have several times found the bed soaked with blood in consequence of a constant stream running over the woman's thigh, although none appeared to come from between the vulva.

Inversion of the womb may be mistaken for polypus, prolapsus uteri, or vaginæ. It has also been ignorantly removed by the crotchet, supposing it to be the head of a child.

It may be distinguished from polypus by being rough externally, and very sensitive to the touch. Polypi are smooth and glistening, and the mouth of the uterus can be felt encircling their necks. From prolapse of the uterus it may be known by the absence of the os uteri, and from that of the vagina (which rarely assumes so large a size), by our being able to discover a second opening above the tumor—the true os.

I may mention, however, that many first-rate practitioners have mistaken polypus for inversion—accounts of which will be found in the different periodicals.

The treatment of inversion of the uterus will greatly depend upon the fact, whether the placenta be attached to the inverted organ, or if it has been expelled. In the former case—viz., where the placenta is attached, there is less danger of the patient from flooding, as the uterine sinuses are closed by the adherent placenta. In either case, as soon as the accident is discovered, reduction should be accomplished as soon as possible; but a very important practical question remains to be decided. In the event of the placenta being adherent to the displaced uterus, ought we first to detach it, and then reduce the uterus; or, on the other hand, should we attempt the reduction, the placenta being still adherent? Now, in answering this question, I should state that there is considerable difference of opinion amongst the highest authorities. Madame Boivin recommends the separation of the placenta prior to our attempting reduction, for the following reasons—1st. If the placenta adhere, its detachment will be more difficult after the replacement of the uterus. 2nd. This replacement is difficult enough in itself, without adding the bulk of the placenta to that of the uterus. 3rd. If we proceed with promptitude, we need not apprehend the consequences of hæmorrhage.

In this opinion, however, Madame Boivin is opposed by Sir Charles Clarke, Denman, Burns, Carus, Blundell, Gooch, and others. Burns says, p. 523—"If the placenta still adheres, we should not remove it till we have reduced the uterus."

Carus gives his opinion, "that if the inversion is quite recent, and the placenta still adheres to the uterus, it is best to return the uterus before separating the former; but if it is in a great measure detached, which is by far the most frequent occurrence, it is advisable to separate it completely before returning the uterus."

Denman expresses himself to the same effect as Carus, and Sir

Charles Clarke observes—"The uterus is first to be returned to its usual state and natural situation, and the case then becoming simply one of a retained placenta, is to be treated as such; but if neglecting this order of proceeding, the placenta should be first removed, a number of bleeding vessels will be exposed before the uterus can contract, and the chance is that the patient may die from hæmorrhage.

Blundell advises the reduction with the placenta attached, provided the placenta be adherent to the uterus at nearly its whole extent; but if the attachment be only partial, as by one lobe or so, then its detachment before reduction; and Gooch says—"First make an attempt to replace the uterus without separating the placenta, but if the difficulty of reduction while the placenta is attached is insurmountable, you must then incur the risk of hæmorrhage by first separating it."

With such authorities before him, I think the practitioner can have no difficulty in making up his mind as to the proper plan of treatment, which appears to be in every case to attempt the reduction of the displaced organ without detaching the placenta, but that if that be impracticable. he should then detach it, and proceed with the greatest promptitude to reduce it. That the reduction cannot be accomplished in all cases, even when the placenta has been detached, and that it was not without cause that Gooch alluded to the risk of separating it, the following case, which I quote from Dr. Ashwell's Treatise on the Diseases of Women, will, I think, sufficiently prove:

Inversion of Uterus immediately Fatal from Hæmorrhage. (Communicated by Dr. Lever.)

Mrs. ———, æt. thirty-six, the mother of several children, and delicate, was confined, after a quick labour, of a living child. In a few minutes, without any traction on the cord, the patient complained of sudden pain, and said something more had been expelled. The surgeon immediately passed his hand above the pubes but could not detect the womb. An attempt to make a vaginal examination satisfied him that the uterus was completely inverted. Without the loss of a moment he tried to return it without previous separation of the placenta, but failed. He now peeled off the after-birth; but as there had been some blood lost already, owing to its partial detachment, the entire separation was attended with such fearful flooding that she sunk almost immediately.

There can be no doubt that in all cases of inversion, whether attended with hæmorrhage or not, that the presence of syncope renders the reduction much easier than it would be without it. Sir C. M. Clarke says that he has been called by other practitioners to cases of inverted uterus, where the patient has expired from hemorrhage before the accident was discovered, and that in every instance the displaced uterus was reduced with very little trouble, all difficulty being removed by the depressed condition of the

woman prior to death. Upon the same principle we find that Dewees recommends bleeding to syncope in cases of inversion unattended with hæmorrhage.

Now as to the termination of this disease, we have seen that it may prove fatal in a few hours from flooding. In some instances the hæmorrhage has been followed by inflammation terminating in gangrene, induced by a kind of strangulation of the uterus in its cervix. There are several cases mentioned by Rousset, in which recovery took place after the spontaneous separation of the mortified organ. It may become chronic, and either prove fatal by exhausting discharges, or, as in some rare instances, be spontaneously cured.

As I do not intend to enter into the consideration of the treatment necessary for chronic inversion, I shall merely state that it has been fully proved that the inverted organ may be removed with impunity by ligature or excision; successful cases are given by Granville, Gooch, Newnham, &c. In the museum of the College of Surgeons, there are three specimens of uteri removed by Dr. Johnson, of this city, the particulars of which will be found briefly stated in Houston's catalogue, p. 510, and more fully detailed in the Dublin Hospital Reports, vol. iii.

Dublin Medical Press, Sept. 23, 4846, *p.* 196.

170.—*Use of Black Oxide of Mercury in the Vomiting of Pregnancy.*

M. Stackler has announced that he has found the black oxide of mercury a most useful medicine for removing the obstinate vomiting which sometimes occurs in females during pregnancy. The vomiting was checked in two cases of unusual severity, by doses of the oxide, equal to five centigrammes daily (= 0·77 grains). No unpleasant effects were observed to follow the use of the medicine. There was no salivation. Dr. Jouger has found the oxide equally beneficial in hysteric convulsions and in cases of uterine irritation.

Medical Gazette, Sept. 4, 1846, *p.* 437.

171.—*On Ergot of Wheat.*

In a private letter from Dr. Reynolds, of Brockville, the writer observes:

I send you a small specimen of ergot of wheat, and regret that I could not procure a quantity of it. One of our farmers, two years ago, imported some Spanish wheat, to try whether it would be sufficiently forward to escape the fly, but found last year that it was attacked with a disease similar to that so common in the rye, producing the ergot, and rendering the flour a dangerous article of food, should the grain before grinding be not carefully freed from this variety of smut. I tried the effect of this ergot in an obstetric case, where the os uteri was well dilated; the woman had

been for several hours without pains, notwithstanding a recourse to the usual treatment to induce them, &c.

I gave about half a drachm in the form of infusion, and in the course of fifteen minutes strong pains came on, and the patient was delivered of a fine boy, making the usual noisy entrance into life; so that in medicinal properties it would seem to have similar effects with the ergot of rye.—*Br. Amer. Jour.*

Dublin Medical Press, June 17, 1846, *p.* 376.

172.—*Parturient Properties of the Cortex Radix Gassypium Herbaceum, or Bark of the Root of the Common Cotton Plant.*—Dr. Mc'Gown, of Hillsboro', Mississippi, relates a case in the February number of the *Medical News*, in which this plant exhibited decided parturient properties. It has also, at a former period, been recommended by Dr. Bouchelle, of Mississippi, with a view to its parturient action. It is given in decoction, which is made by boiling ℥iv. of the bark in a quart of water until reduced to a pint; and given in doses of two or three ounces every twenty or thirty minutes.

Western Lancet, May, 1846, *p.* 59.

173.—*Conclusions Relative to the Structure and Functions of the Placenta.*—By John Goodsir, Esq.

[In vol. xii., p. 539, we briefly gave the opinions of Mr. Goodsir on this subject. In the following extract, however, they are a little more in detail:]

1. The placenta, as has long been admitted, consists of a fœtal and a maternal portion intermixed. But the maternal portion, instead of consisting of a part of the vascular system of the mother only, includes the whole of the external cells of the villi.

2. The external membrane of the placental villi is a portion of the wall of the vascular system of the mother, continuous with the rest of that wall, through the medium of the placental threads and lining membrane of the placental cavity.

3. The system of the external cells of the placental villi belongs to the decidua, and is continuous with the parietal division through the medium of the cavities of the placental threads. This portion of the decidua has been named the central division of the placental decidua, and the threads decidual bars.

4. The function of the external cells of placental villi is to separate from the blood of the mother the matter destined for the blood of the fœtus. They are, therefore, secreting cells, and are the remains of the secreting mucous membrane of the uterus.

5. Immediately within the external cells of the placental villi, there is a membrane which I have named the internal membrane of the villi. The membrane belongs to the system of the fœtus, and is the external or bounding membrane of the villi of the chorion.

6. Inclosed within the internal membrane of the placental villi,

is a system of cells which belong to the system of the fœtus, and are the cells of the villi of the chorion. These are the internal cells of the placental villus.

7. The function of the internal cells of the placental villi is to absorb through the internal membrane the matter secreted by the agency of the external cells of the villi.

8. The external cells of the placental villi perform, during intra-uterine existence, a function for which is substituted in extra-uterine life, the digestive action of the gastro-intestinal mucous membrane.

9. The internal cells of the placental villi perform, during intra-uterine existence, a function for which is substituted in extra-uterine life, the digestive action of the gastro-intestinal mucous membrane.

10. The placenta, therefore, not only performs, as has been always admitted, the functions of a lung, but also the function of an intestinal tube.—*Anatomical and Pathological Observations.*

Medical Gazette, June 5, 1846, *p.* 1013.

174.—*On Uterine Hæmorrhage.*—[Dr. T. R. Mitchell, of the Dublin School of Medicine, says, most justly, that there are no cases which demand more knowledge and self-possession than these, as the patient's life depends mostly upon the promptitude and decision of the accoucheur.]

To the late Dr. Rigby of Norwich, the profession is indebted for the publication of correct views and method of treatment for different kinds of hæmorrhage during labour. Every one is or ought to be aware that he divided hæmorrhages into accidental and unavoidable; the former, where the bleeding proceeded from a separation of the placenta or part thereof from any part of the uterus except the cervix or os; the latter, where the placenta or a part of it is placed over the mouth of the uterus, and necessarily producing flooding at every pain, or as dilatation goes on. Now of these two kinds of hæmorrhage it is not my intention to treat at present, merely stating, *en passant*, that for the first or accidental variety the best plan of treatment, provided the os uteri be dilated, and the presentation natural, is to rupture the membranes, and leave the case to nature. If the evacuation of the liquor amnii do not bring on the pains, we may then have recourse to the ergot of rye. Should the os uteri be not dilated, and there be flooding, we should plug and wait. In the second or unavoidable variety, if the os be dilated or dilatable, the hand should be introduced, and the child turned, or in the event of the presentation of the placenta being partial, the case may be treated as if of the accidental variety—viz, by rupturing the membranes. I have not tried the method advised by Dr. Simpson and Dr. Radford, of separating the placenta around the os uteri, and allowing it to be expelled first, so am not competent to give an opinion from personal experience.

The form of flooding to which I purpose now particularly to draw the attention of the profession is that occurring after the birth of the child. In every natural case of labour as soon as the child is expelled, more or less blood is lost, and if the case be not interfered with, the placenta will in a short time be expelled. Should, however, hæmorrhage set in, it will then be necessary to cause its expulsion by producing contraction of the uterus. For this purpose the cold hand applied over the pubes, and the uterus grasped whilst at the same time friction is employed, will be useful: the ergot will also produce the most beneficial effect. Should these fail the hand should be gently introduced into the uterus; when, if the retention be from inertia, the placenta will be found loose within it, from whence it can easily be withdrawn. If, however, the woman has lost much blood it may be necessary to wait a little, so as to allow her to recruit her strength. The advice Denman gives on this subject is so much to the purpose that I shall transcribe it. He says—"If there have already been hæmorrhage so profuse as to occasion danger, and the common consequences of loss of blood, as fainting and the like, have already followed, the placenta ought not then to be extracted, nor the patient disturbed, nor any change made till she is somewhat recovered from her extreme debility, as the danger would thereby be increased, and the patient dying during or immediately after the operation, as I have seen and known in several instances."

Hæmorrhage after delivery proceeds from a want of due contraction of the uterus; hence anything that will have the effect of preventing muscular contraction is evidently unfit for the patient. The old practice of giving "after-pain draughts," containing variable quantities of opium, has latterly, very properly, been much discontinued. There are, however, still many practitioners who not only continue their use, but who also strongly recommend opium as a remedy in flooding cases; and, strange enough, these very men, if called to a case of malpresentation with strong uterine action, will administer large doses of opium to allay this action, and at the same time give it in a case of hæmorrhage, where the life of the woman depends upon its due contraction. Does the opium act in one case as a sedative, and in the other as a stimulant to muscular contraction? I think the question can be fairly answered in the negative. It may be said, then, ought opium not to be used in flooding cases? I would say never at the commencement of it, nor until all the means to cause uterine contraction have been tried; at the same time I am perfectly aware that occasionally it becomes one of the most valuable remedies in these cases. I have more than once seen it act most beneficially in arousing the dormant powers of life when the patient has been reduced to almost a pulseless condition with jactitation, The following will give a good example of the sort of case in which I think the administration of opium not not only admissible but required.

Flooding after Labour.—Mary Doherty, æt. 41, the mother of

seven children, was delivered of twins, June 8th, 1846. Both children presented naturally, and an hour intervened between their birth. After three-quarters of an hour's delay the placentæ were expelled into the vagina, from whence they were removed, the uterus contracted firmly, and all appeared well. In a short time, however, the aspect of affairs was much altered, the uterus ascended out of the pelvis, and flooding to a fearful amount took place. I was sent for, and on going into the room found the whole floor covered with blood, the woman pulseless, and apparently at the point of death. The fainting had given a temporary check to the flooding, and I at once proceeded to try to make the uterus contract; the hand dipped in cold water was applied to the hypogastrium, a drachm of ergot of rye given with forty minims of tincture of opium, and a mixture containing half drachm doses of sp. ammon. c. and twenty-drop doses of tinct. opium, given every twenty minutes. Under this treatment, with light covering, cold air, bandage and pad, the hæmorrhage was checked, and she finally made a good recovery. I could, if necessary, mention several cases of fatal flooding clearly traceable to the administration of opium.

Besides the means noticed for checking bleeding, I may mention —gallic acid, galvanism, pressure on the aorta, the hand introduced into the uterus, as recommended by Gooch, transfusion, &c., to some of which I shall again draw attention.

Every practitioner is aware that some women are more predisposed to hæmorrhage than others, and it is often a source of great anxiety to themselves, their friends, and their attendant. In many, indeed, this predisposition is so great that we find every labour is attended with serious and alarming flooding. It is in such cases that the treatment recommended by my friend Dr. Beatty will be found so peculiarly valuable: he recommends a practice which may be called the anticipative, and which is calculated to prevent the occurrence of flooding in those whom former experience has given reason to suppose it likely to occur. The plan he adopts is to prepare an infusion with a drachm of the ergot to four ounces of water, allowing the powder to remain suspended. One-half of this infusion he administers just as the head clears the perineum, and the other half when the child has been expelled.

Dr. Beatty has published several cases in which this plan of treatment was most successful; I have only had an opportunity of testing its value in one, and with the best results.

Dublin Medical Press, Sept. 9, 1846, *p.* 161.

175.—*Cases of Placental Presentation.*—[Numerous cases of this kind continue to be related in the journals; but we do not perceive any improvement of the suggestions and practice which we have given in previous volumes. On the other hand we perceive among some practitioners a want of discrimination in the particular cases which require the extraction of the placenta before the child: and any error of practice in this respect must necessarily be so fatal to

the lives of children, if not to the mothers, that we take the opportunity of again placing before our readers the judicious rules adopted by Dr. Simpson, as will be seen in Retrospect, Vol. xiii, p. 481.

"Whenever the condition of the mother permits, *turn* the child; and extract the placenta. The placenta should never be detached first, unless the danger to the woman is so great from exhaustion, as to render turning hazardous; or, unless there exists some obstacle to the extraction of the child, either from distortion of the pelvis or from tumors.

Neither delivery by turning, nor detaching the placenta, ought ever to be attempted, until the cervix and os uteri will safely allow the introduction of the hand. Until this is the case, strict rest, the application of cold, and the *use of the plug*, will be required.

Detaching the placenta will be found the best line of practice, 1st, in severe cases of unavoidable hæmorrhage, with placenta previa, complicated with an os uteri so insufficiently dilated and undilatable, as not to allow of turning with safety; 2nd, in many of the cases in which placental presentation is connected with premature labour, and imperfect development of the os and cervix uteri; 3rd, when the uterus is too contracted to allow of turning; 4th, when the pelvis or passages of the mother are organically contracted; 5th, in cases of such extreme exhaustion of the mother, as forbid immediate turning or forced delivery; 6th, when the child is dead, and when it is premature and not viable."

By keeping these safe and excellent rules before us we maintain that the practice is good, but the moment we deviate from them, we almost certainly destroy the life of the child, and endanger that of the mother.

Mr. Everitt, of Ellesmere, relates the following case.]

Ellen Roberts, aged 17, an inmate of the Union, was attacked with hæmorrhage about twelve o'clock at noon, on Saturday, the 12th instant. I was sent for immediately, and arrived about twenty minutes after the first occurrence of her bleeding. The exsanguine countenance of the patient, the fluttering pulse, the syncope and vomiting, caused by the excessive flooding, made me feel very anxious as to the result of the case.

On examination I found the placenta presenting and partly detached from the uterus, the detached part occupying the upper part of the vagina, and the hæmorrhage continuing very profusely. I at once acted upon the principles so strongly inculcated by my esteemed instructor, Professor Simpson, of the University of Edinburgh, and delivered the placenta. The flooding at once abated, but did not stop until cold water had been applied to the umbilical region; then it ceased entirely.

A second examination detected the head of a fœtus presenting with one of its hands and forearms, and in the cavity of the pelvis.

The uterus had now lost its contractility, and the balance of life and death continued wavering. Ammonia and brandy were administered every ten minutes for half an hour, so that the tone and beat of the pulse became much improved. This treatment was followed up by half drachm doses of the ergot of rye, every ten minutes. After the third dose had been taken, strong expulsive efforts came on, and a fœtus was expelled, which appeared to be about three months old, and to have been dead several days.

No subsequent hæmorrhage occurred, and the girl gradually became convaleseent. In this case, and more than probable in all sueh cases, the hæmorrhage was and is from the uterus, as well as from the plaeenta, or why did it partially eease after the placenta had been removed, and not altogether before the contraction of the uterine vessels upon the applieation of cold water to the umbilical region? As to the consequenees nothing dangerous need be anticipated.

Provincial Medical and Surgical Journal, Sept 30, 1846, *p.* 465.

[Mr. Stickings, of Lenham, Kent, gives us a case in which he detached the placenta, although the os was in sueh a state of dilatation that he might have turned in the usnal way. He was successful; but we question the propriety of the practice in such a case, and would earnestly advise practitioners to keep steadily in view the rules at the head of this article. Mr. Stickings was summoned to the patient, who was in her fortieth year, and had given birth to eleven children. She had been flooding three hours, and was exceedingly sunk and exhausted: the os uteri was considerably dilated, and the placenta presenting. Mr. S. immediately proceeded to detach it, and as soon as he had accomplished this the hæmorrhage ceased—the uterus acted vigorously, and a living male child was expelled.]

Medical Gazette, May 8, 1846, *p.* 815.

[Mr. Wales, of Downham, relates another ease, in whieh he certainly rescued the mother; but the practice would have been fatal to the child if it had been alive, while we maintain that, after the gush of blood, if he could introduce his fingers and open them between the walls of the uterus and the plaeenta, he might have adopted the old practiee with equal safety to the mother, and with mueh more seeurity for the life of the child. We merely give this case as an illustration. Mr. Wales says:]

On Tuesday last, the 24th of the month, I was called to Susanna Newton, aged twenty-five, pregnant for the fourth time. At ten, a.m., I found the patient had been alarmed by a eopious show without labour-pains. I direeted her to bed, and on examination found the vagina and uterus little prepared for labour. She was

kept quiet and cool, and I heard no more of her till three, a.m., of the following day, when I went to her in haste. A profuse flooding had occurred, with slight pains; I introduced my hand slowly, and with some difficulty, into the vagina, and found the os uteri dilated to the size of a crown-piece, and a portion of the placenta lower than the head of the child. I deliberated, without suffering my hand to retreat, on what plan I should proceed. The os was thick, and not dilatable, offering great difficulty to passing the hand and reaching the feet of the child. I had almost determined to administer a full opiate, and wait till there would be safety in the older practice, when, on a sudden, a frightful gush of blood produced syncope, and, spreading my fingers open between the walls of the uterus and placenta, I detached the latter with a sweeping motion of the hand, when a strong pain almost instantly expelled it and my hand into the vagina. The hæmorrhage from this moment ceased, and in an hour moderately energetic pains expelled a seven months' dead child.

It was gratifying to me, that without tedium and exhaustion to the poor woman, the case was so quickly ended, and I do not remember a single instance in my own practice where I was so fortunate as to preserve the life of the child in such cases. A brother of mine, now deceased, going to the assistance of a female midwife, found the placenta in the bed, and the woman recovering from her danger. This was to him, at this time of day, inexplicable, and has often been related to men of experience, exciting only their incredulity.

Provincial Medical and Surgical Journal, April 8, 1846, *p.* 158.

176.—*Case of Severe Gastric Irritation in Pregnancy.*—By D. O. Edwards, Esq., Brompton.

[This case was under the care of Mr. D. O. Edwards, of Brompton, and he gives the following history of the treatment:

The patient, twenty-eight years of age, had borne three children, and had had no abortion; she entered the sixth month of her pregnancy in May. Her previous health was good, but on the 25th she experienced the douloureux in the face, accompanied after a time with nausea and vomiting of bilious and other matters. She had been attended by another practitioner, who considered the gastric irritation was due to an obstruction in the duodenum, and gave her energetic doses of calomel and colocynth and other purgatives, which, of course, had no permanent effect. Opiates and effervescent potions were attended with like success.

Dr. Robert Lee saw the patient on the 28th, who tried hydrocyanic acid, and every anti-emetic remedy that could be thought of. Blisters, calomel, enemata, hyd. c. creta, hyoscyamus, dilute sulphuric acid, sulph. magnesia, infus. of roses, &c., were used in vain.

On the 2nd June, Mr. Edwards, with Dr. Lee, saw the patient early in the morning. She was much exhausted. Pulse 120, but with considerable power, a tendency to cerebral congestion, vomiting of a dark fluid, containing dark-green flocculi, and she was complaining of great weight and insensibility of the right side, from the shoulder to the ilium. No acute abdominal pain on pressure, except over the pylorus. No food could be kept on the stomach, and her strength and spirits were flagging. Leeches were applied to the epigastrium, and opiate lotions, and mustard cataplasms to the right hypochondrium. To prevent cerebral congestion, ice was constantly applied on the head. To support the patient, beef tea and thick gruel were injected per anum. The vomiting, however, did not cease, although it was somewhat less violent.]

3rd. Dr. Lee suggested the propriety of producing labour as the only means of saving the patient. I felt a hesitation, and as another opinion was necessary, Mr. Blagden was called in. That gentleman examined the patient carefully, did not perceive the immediate necessity of sacrificing the child, and recommended certain remedies, which were to act upon the liver. These were employed without the desired effect, till the

4th. The condition of the patient was now much deteriorated: the pulse 140; tongue loaded; bowels torpid; vomiting unremitting. She was restless and anxious. The proposition of Dr. Lee was acceded to, and the membranes were ruptured. An ounce or two of the liquor amnii flowed into the vagina, and a small portion continued to trickle through the os externum. The os tincæ was dilated to the size of a shilling. No signs of labour appeared during the fourth, and the vomiting was hardly, if at all, mitigated.

Short intervals of sleep were obtained, but the patient presented on the morning of the 5th, no visible improvement. The dilatation of the os tincæ had increased but a very little; the discharge of the liquor amnii was inconsiderable; and the strength of the patient had still further diminished. She was seen, at nine, a.m., by Dr. Lee, who felt great anxiety for her safety. He strongly urged the necessity of taking away the child artificially, in the course of the day, if natural labour did not come on. In the interim, it was determined that I should provoke the uterus, which was perfectly torpid, into action, by introducing the fingers every hour into the mouth of the womb, and distending the cervix cautiously. This was done regularly till six o'clock in the evening, and the uterus admitted the whole hand; and yet no pain was excited: the head presented, but its position was not forwarded.

During that day, the stomach of the patient was more quiet; it retained some solution of isinglass, but the pulse was frequent and very feeble; the bowels inactive, and the patient complained that her head was as insensible as wood, and she exhibited signs of approaching delirium. At six, p.m., Dr. Lee arrived, when the patient had just experienced a little pinching pain in the bowels, and the

pulse had improved a little. It was inferred from these circumstances, and the dilated state of the os tincæ, that natural labour was approaching, and that the use of the perforator might be avoided; she was accordingly left in my charge. Soon afterwards, a feeble labour pain was felt. This was succeeded by others; the head descended; a small stream of blood flowed from the womb, amounting altogether, before delivery was completed, to about four fluid ounces. The labour pains exhausted the force of the patient, the pulse disappeared, and death from collapse seemed imminent. I gave her full doses of brandy; and thinking the contractility of the womb my greatest security against the threatened hæmorrhage, I did not assist the delivery with the vectis until the head was at the os externum. A sixth-month fœtus was expelled at eight, p.m.

The fœtus lived only about ten minutes, and therefore required but little attention. Immediately upon detaching the child, the mother fell supine in a state of extreme prostration; no pulse could be felt at the wrist, but the heart acted violently and irregularly, and the surface of the body became of unequal temperature; small doses of brandy were given repeatedly, and in half an hour she became composed enough to have the after-birth removed. This was unusually large, the placenta being very much congested; and a fibrinous coagulum, some days old, of the size of the doubled fist, was adherent to it. No hæmorrhage succeeded, and the usual precautions were taken to bandage the abdomen, &c.

[The patient continued very low and weak for about four hours; the stomach, however retained food, and a good natural motion took place six hours after delivery. She gradually acquired strength; the nausea and vomiting did not return; but the disorder of the hepatic system continued to require the use of mercurials and purgatives. In a month she went to Brighton, perfectly recovered.]

A careful consideration of all the facts here alluded to, may, Mr. Edwards thinks, justify us in coming to the conclusion, that when, in a pregnant woman, in any stage of her gestation, severe vomiting, wearing away the strength of the patient, and preventing proper nutrition, shall have for several days resisted all the usual remedies, whilst the fever continues unabated, and the vital forces are failing, we ought not to delay a moment in procuring the expulsion of the fœtus.

Lancet, Sept. 19, 1846, *p.* 321.

177.—*Case of Placenta remaining Three Months in the Uterus, and its Expulsion by Ergot of Rye.*

M. Malagodi reports the following case:—A woman, aged 30 years, was delivered three months ago. There remained since that time a slight uterine hæmorrhage, with pains and a sense of weakness. The uterus was a little swollen, resistent, and as if occupied by a foreign body; the orifice was almost completely closed. It

was said that the placenta had not been expelled after the last labour, and that the midwife, not having been able to extract it, abandoned it to the expulsive efforts of nature. M. Malagodi saw no other indication than the use of ergot of rye. The first doses caused uterine contractions, and she expelled a fleshy body, compact, of a deep red colour, having the form of the uterine cavity. Her recovery was rapid and complete.—*Il Raccoglitore Medico, and Gazette Medico-Chirurgicale*, 24 Janvier, 1846.

Monthly Journal of Medical Science, June, 1846, *p.* 445.

178.—*Ipecacuanha in Uterine Hæmorrhage.*—By J. Higginbottom, Esq.

[Mr. Higginbottom attended a patient in three of her confinements, in 1821, 1823, and 1826. Each time, after the separation of the placenta, the most severe hæmorrhage took place. The usual remedies were used—cold to the abdomen—pressure to induce contraction of the uterus—opiates—wine and brandy. In her third confinement, Mr. H. despaired of saving his patient—he had given her half a pint of brandy and a pint of port wine, but still there was no amendment, and it occurred to him that on former occasions, she never was any better until the contents of the stomach were evacuated—therefore he at once decided on giving an emetic. He observes:]

I directly gave her half a drachm of ipecacuanha; a full vomiting soon succeeded, and a large quantity of fluid was ejected. I was much struck with an expression of my patient, which I had several times heard before in similar cases, after vomiting. After a deep sigh, she said. "Oh! I am better; I am better now." The hæmorrhage ceased directly, and did not return; the symptoms of sinking abated, and the patient appeared in her natural state of body, but very feeble. A little plain gruel was all the nutriment given her, and she recovered gradually from her weak state. I attended the same patient three times afterwards, in the years 1827, 1829, and 1831, and what is very satisfactory in favour of the secale cornutum, which was about that time becoming more used in this locality, I gave, in every case, half a drachm of the powder before the birth of the child, a similar dose after the birth, before the separation of the placenta. This remedy had the desired effect of preventing the hæmorrhage, so that I had no further need of the ipecacuanha, or indeed, of any other remedy.

Several years ago, I had a patient, on whom the secale cornutum had no effect in preventing the hæmorrhage, and I gave the ipecacuanha with a favourable result.

For nearly twenty years, I have lost all confidence in the diffusible stimulants, such as wine, brandy, &c., in uterine hæmorrhage, from a conviction that they increase the arterial circulation, and, consequently, the hæmorrhage, and I find that opinion corroborated by the writings of Drs. Clutterbuck and Ramsbotham.

The utility of ipecacuanha in uterine hæmorrhage has been proved by Dr. Osburn, of Dublin, but I am not aware that he has recommended it in extreme cases of exhaustion or sinking.

Provincial Medical and Surgical Journal, July 1, 1846, *p.* 300.

179.—*On the Inflammatory Ulceration of the Cervix Uteri during Pregnancy, and on its Influence as a Cause of Abortion.*—By J. H. Bennet, M.D., London.—[Dr. B. says I have devoted great attention to this disease and have found it not uncommon, and that it plays a most important part in laborious pregnancies, and that it is a very frequent cause ef abortion.

The local symptoms existing during pregnancy are mostly the same as during the non-pregnant state, but more or less modified and obscured by the changed position of the uterus.]

The sensation afforded to the touch differs considerably from that which is perceived, under similar circumstances, in a non-pregnant female. As is well known to all accoucheurs, the healthy uterine neck in the pregnant female undergoes successive changes as pregnancy advances, and as the uterus increases in size—changes which may be said to consist in its gradual enlargement and softening, in the gradual opening of the os, and in the change of its position; for instead of being nearly in the direction of the axis of the lower outlet of the pelvis, (its usual position) as the uterus ascends into the abdominal cavity, the cervix becomes retroverted, and partially assumes the direction of the axis of the upper pelvic outlet. On the other hand, it will be remembered that increased volume in the cervix, an open state of the os, and retroversion, coupled with a velvety surface, are the principal characteristic indications, to the touch, of inflammatory ulceration of the uterine neck in the non-pregnant state.

When inflamed, the tumefied cervix is more or less generally indurated, whereas, in the natural state, in the first months of pregnancy, it is enlarged, but soft, throughout its entire texture; the os is more open than is consistent with the stage of pregnancy; a marked soft, velvety, or mossy sensation is conveyed to the finger from the surface of the open os, and from the parts immediately adjoining.

When the pregnancy is not known, the existence of an inflamed ulcerated cervix will often be recognised by the above symptoms without the pregnancy being suspected: this has repeatedly occurred to me. If, however, the inflammation is severe, and the ulceration extensive, the indications furnished by this mode of exploration alone are so decided, as often to enable us to recognise at once the nature of the case. The cervix is more voluminous, or the os is much more open, than is consistent with the period of the pregnancy; and it is also more or less generally indurated. The open os, instead of presenting a smooth surface, presents a very peculiar feel, of which the word velvety scarcely conveys an idea.

The surface of the open os and cervix sometimes appear fungous to the touch, or, in severe cases, of a quaggy, pultaceous consistency. In the midst of this fungous surface may be felt, in some instances, small, moveable, superficial indurations, of the size of a large pin's head, or larger, constituted by indurated and hypertrophied mucous crypts. On withdrawing the finger, it will generally be found covered with muco-pus, and sometimes tinged with blood; indeed, the vagina generally contains a great quantity of muco-pus, especially in its upper region.

On examining with the speculum, the vulva and vagina are found red and congested, as is the case in pregnancy; but the congestion is carried to a greater extent than it naturally would be, and the redness is much more vivid. The cervix being directed backwards, retroverted, after the first few months of pregnancy, it is often rather difficult to bring it fairly into view; the difficulty may, however, always be overcome, by using either the bivalve or the conical speculum, according to the case. When the cervix has been brought fairly into view, it will be found tumid, congested, of a livid hue, voluminous, soft, or only partially indurated; and on one or both lips, generally, penetrating into the cavity of the os, is seen a more or less extensive ulceration, sometimes covered with deep, long, fungous granulations. This great development of the granulations—this luxuriant fungousness of the ulcerated surface—is so marked in some cases, and so seldom observed in the non-pregnant state, that when it is found, it may be said itself to constitute a symptom of pregnancy. I have, in several instances, recognised the gravid state of the uterus from the peculiar appearance alone of an inflammatory ulceration of the cervix. The ulcerated surface, as I have said, is generally covered with a great quantity of muco-pus, but does not bleed so readily as might be supposed from the luxuriance of the granulations. As I have stated in my treatise on uterine inflammation, the fungous character of ulceration of the cervix in pregnant women is sometimes so great, that it might occasion, in the minds of persons unacquainted with the above facts, the impression that the patient is affected with malignant ulceration of the organ. I have generally found ulceration of the cervix in pregnant women beginning to assume this fungous character about the end of the third or fourth month of pregnancy, increasing gradually as it progresses.

If the cervix is previously hypertrophied and indurated, it begins to soften about the same period, the softening first taking place in the interval of the segments, if the induration is lobular, and subsequently pervading the entire os. This gradual softening of the hypertrophied and indurated cervix, which appears to take place under the influence of the changes that occur in the uterus during pregnancy, no doubt accounts for induration of the os, at the time of labour, being so very rare, when compared with its great frequency in females who present it as the sequelæ of chronic inflammation. The softening itself is the immediate result of the gradually in-

creasing vitality of every part of the uterine system during pregnancy—a physiological condition which also explains for the marked luxuriance of the ulcerations.

The pains in the lumbar region are generally very severe, and often referred directly to the sacrum itself. They are continued; not merely occasioned by fatigue or over-exertion, but always to be perceived, night or day, on the patient analyzing her sensations—a very important distinction in ulceration of the cervix—the lumbar pains of weakness being occasional or intermitting only. The pains in the hypogastrium, and in the ovarium regions, are also often very severe, and ascend high in the developed abdomen, so as to occupy all, or a considerable portion, of its lower half. The purulent secretion is generally profuse; but as there is often a considerable white flux from the congested parietes of the vagina, the pus from the ulcer becomes mixed with it, and loses its characteristic appearance. The patient thus appears merely to have a white leucorrhœal discharge, unless the touch be resorted to, when the finger is withdrawn covered with pus. In some cases of ulceration in incipient pregnancy, I have known there to be no leucorrhœal discharge, pus being secreted only by the ulcerated surface, and being absorbed in the vagina.

[The general symptoms are the disturbance which takes place in the general health: pains which by continuance cause loss of appetite, rest, strength, and flesh, accompanied with confirmed indigestion, cephalalgia, and palpitation. There is also the constant desire to retain the recumbent position. These symptoms also characterize approaching abortion, and they are, says Dr. Bennet, the unsuspected cause of a large proportion of the miscarriages which occur.]

Treatment.—Inflammatory ulceration of the cervix uteri occurring or existing during pregnancy, should be treated by pretty nearly the same means as when existing in non-pregnant women—that is, by local and by general agents, but more especially by the former. Astringent vaginal injections, repeated cauterization of the ulcerated surface, continence, and rest in the horizontal position, are the principal local means to be resorted to. As the general treatment must to be guided by the general state of the patient, which may vary considerably, it is impossible to lay down any precise rules. I would merely remark, that mild tonics are the remedies which are the most frequently indicated, on account of the generally debilitated state of the system. The caustic that I most frequently use is the nitrate of silver, which must be freely applied, and carried into the cavity of the os, if the ulceration extends so far, as it mostly does. I rather avoid the more energetic caustics, such as the acid nitrate of mercury, wishing to localize as much as possible the action of the remedy. I do not, however, hesitate to apply it to the luxuriant fungous ulcerations which I have described, and which the nitrate of silver often does not

modify with sufficient energy to ensure cicitrization. The milder forms of ulceration—those which are observed in early pregnancy—often heal with surprising rapidity, considering their character. This is sometimes the case with the fungous ulceration of more advanced pregnancy, but much less frequently. The latter are mostly intractable and difficult to heal, but less so, perhaps, than ulcerations of a similar character would be in non-pregnant females. In the pregnant woman the luxuriance and fungosity of the ulceration is not so much the result of the intensity of the disease as of the increased physiological vascularity and vitality of the uterus, which increased vascularity appears likewise to facilitate the healing process.

The injections which I use are the same as in non-pregnant women—solutions of sulphate of zinc, alum, acetate of lead, tannin, &c., for further details respecting which I must refer to my work on uterine inflammation.

I am not in the habit of resorting to leeches, or to scarification of the cervix, in these cases, because I have not hitherto found these modes of treatment necessary; but I have no doubt that they might be resorted to without fear, were they deemed necessary. It is, however, I have hitherto thought, most prudent not to adopt any mode of treatment which is calculated to interfere much, even momentarily, with the circulation of the pregnant uterus. I do not, either, use the cold hip-bath in these cases, for a similar reason.

The application of caustic to the ulcerated surface occasions, as in the non-pregnant females, but very little pain at the time, although rather severe pain sometimes comes on in the inguinal and hypogastric regions in the course of a few hours, lasting for some hours, or for a day or two. The leuchorrhœal discharge is also often tinged with blood for one, two, or three days afterwards, as is the case with ordinary ulceration. This slight show need occasion no alarm whatever, as it is purely local, and the result of the application of the caustic to an ulcerated surface.

Under the influence of this treatment, the ulceration soon assumes a healthier, less luxuriant appearance, then begins to cicatrize, and finally heals.

Once the progress of cicatrization has fairly set in, the irritability of the ulcer and of the surrounding tissues having been subdued, there is but little fear of abortion taking place. But until this is the case, abortion is imminent, and may, indeed, be feared daily. It is well, therefore, to apprise the patients of this circumstance, as otherwise they would be certain to attribute the miscarriage, were it to occur, to the instrumental examination. This leads me to say a few words respecting the use of the speculum in these cases.

The only circumstance which can explain the fact of the frequent existence of ulcerative inflammation of the uterine neck during pregnancy having hitherto passed unperceived by accoucheurs and pathologists, who in France freely resort to instrumental exami-

nation in uterine disease, is the general impression among them that the use of the speculum in pregnant women is dangerous, and likely to give rise to abortion. Such a notion, however, is most unfounded, as I have become convinced ftom my own experience. A careful instrumental dilatation of the vagina in a pregnant female is of itself perfectly harmless, as the slightest reflection will show. On the other hand, it is only by combining instrumental treatment with the other means employed, that the ulcerative disease can be cured; and, as I have stated, the chances of abortion taking place under the influence of the ulcerative disease, I have found so great, as to render it imperative to adopt *every* curative means in our power.

As a general rule, the application of any caustic to the ulcerated cervix uteri, although not very painful at the time, was followed by an increase in all the local pains, as also by an increase in the leucorrhœa, which very frequently became sanguinolent, if not so before. This exacerbation generally lasted two days, but sometimes four, five, or six. After its decline, however, the patient was generally easier and better than before the application of the caustic.

Lancet, Sept. 26, 1846, *p.* 354.

[Dr. Bennet illustrates his opinions by two interesting cases, one of which we abridge. This was cured without the occurrence of abortion.

The patient, aged twenty-nine, was admitted into the Western General Dispensary, April 24, 1846, and presented the appearance of one labouring under confirmed organic disease. The nervous and muscular system much enfeebled; constitutional fever: digestive function much disordered, and has restless nights: bowels constipated: menstruation absent since February last, but was then very abundant, and almost amounting to flooding, being succeeded by a repeated sanguinolent discharge, which she attributed to the menses.]

On examining digitally, the following was found to be the condition of the uterine organs:—Cervix voluminous, indurated, especially the anterior lip; velvety fungous sensation around and in the os, more especially marked on the inferior lip; cervix very much retroverted.—Speculum: vagina very injected, containing pus; cervix attained and exposed with difficulty, even with the bivalve speculum, owing to the extreme retroversion; the anterior lip presents considerable chronic hypertrophy and induration, but is only ulcerated in the immediate vicinity of the os; the inferior lip and circumference of the os presents a fungous, bleeding, ulcerated surface; uterus slightly enlarged.

The great and rather dark injection of the vagina, the fungous character of the ulcer, and the absence of any considerable flow of blood since the end of February, inclined me at first to suspect the existence of pregnancy; but I nearly discarded the idea on reflect-

ing, that she had evidently been suffering from ulceration of the cervix for years; that, as she had been subject for some months to continued bloody discharges from the ulcer, the existence of menstruation might have passed unperceived, and that the vaginal redness might be merely the result of inflammation. I determined, however, to be cautious in the treatment, as there was some doubt as to the exact nature of the case. The nitrate of silver was freely applied to the ulcerated surface; weak sulphate of zinc vaginal injections, (half a drachm to the pint), were prescribed, as also a light diet, perfect rest, the infusion of diosma, with carbonate of soda internally, and an occasional mild purgative.

May 1st. The free application of the nitrate of silver was attended with but little uneasiness or pain, but was followed by rather severe pain for the two ensuing days. On the third day there was a considerable discharge of blood, and from that time she was easier. The nitrate of silver was again used, as also on the 8th, the other means of treatment being continued, and the general state remaining the same.

15th. The ulceration still presented the same fungous appearance, and excreted blood continually: she had had a sanguinolent discharge for the last week, without intermission. The nitrate of silver, although freely employed, being evidently powerless to modify the ulceration, I applied the acid nitrate of mercury. Much more pain was experienced than on the previous cauterization, the patient nearly fainting. Same treatment.—The flow of blood was arrested for two days, and then came on again, only lasting, however, three days. Subsequently, the vaginal discharge assumed a yellow purulent character only. At my next examination I found the character of the ulceration favourably modified; it was no longer so irritable and disposed to bleed on being touched. The acid nitrate of mercury was again applied.

June 4th. Great pain was experienced after the last cauterization; the pains being, as usual, principally in the lumbar and ovarian regions; she is now much easier, more so, indeed, than she was before the treatment was commenced. There is an abundant yellow vaginal discharge, but no blood; mucous membrane of vagina less red; ulceration beginning to present a healthy appearance, and to heal at the circumference. On examining, attentively, the uterus, I found that it had evidently increased much in size, and was rising from the cavity of the pelvis. Since I had attended her there had been no continued show of blood which she could consider equivalent to menstruation, although she had been losing blood, more or less nearly every day. She had lately, also, fainted repeatedly, which had never occurred hitherto, except during pregnancy. The above data led me at once to conclude that the patient was pregnant, and that, consequently, my first surmise was correct. Such proved to be the case, the uterus continuing to increase, and all the symptoms of pregnancy becoming gradually more and more decided. She was still at this time so weak, that she could scarcely walk into the con-

sulting room; the tongue, however, was more natural; she was beginning to feel a slight return of appetite, and could keep a little fish on her stomach. Considering that the system would now be able to bear a more tonic medication, I put her on the citrate of iron, continuing the periodical application of nitrate of silver to the ulcerated surface, and the use of the astringent vaginal injections, tepid hip-baths, &c.

From this epoch, under the above treatment, the case continued to do favourably. The lumbar, ovarian, and hypogastric pains gradually diminished, as also did the leucorrhœal discharge; the cicatrization of the ulcerated cervix progressed with slow but sure steps, the circumference of the ulceration healing first, and then the cavity of the open os. The induration of the anterior lip of the cervix gradually melted as pregnancy advanced, the entire cervix becoming perfectly soft to the touch. The general health gradually improved as the local inflammation subsided. At one time, she had for several days strong uterine bearing-down pains, similar to what she had experienced previous to her miscarriage. They were subdued, however, by rest, and repeated injections of laudanum into the rectum.

July 23rd. The ulceration was completely healed. There was scarcely any leucorrhœal discharge, what little there existed being principally mucus. The cervix was soft throughout, but rather more voluminous than it naturally is at this period of pregnancy. The general health was very much improved in every respect: the fainting had ceased; the appetite was better; the irritability of the stomach had disappeared; and the general nutrition was improving. She still felt occasional pains in the loins and uterus, and was very weak. She had not felt the child, and fancied it was dead, of which, however, there was no other evidence.

Remarks.—The above is a most interesting illustration of the vitally important facts which I have recently laid before the profession, and shows what a decidedly practical bearing they have upon the practice of obstetricy. Nor is it a rare case, selected to give importance to my previous statements, I have seen many of the same nature within the present year; and have no doubt but that there are in this country, at the present time, thousands of females whose health and offspring are similarly endangered.

In looking over what I call the uterine history of this patient, we find that she had menstruated early, and that menstruation was from the first, irregular, painful, and abundant. This I often remark to have been the case with patients who in after-life become subject to the various forms of sub-acute uterine inflammation that I have described. It would seem as if the uterus in these females, from the first dawn of its physiological existence, were in a state of orgasm, or excited vitality, which renders the accomplishment of the monthly function difficult, and which also appears to pre-dispose to inflammatory disease. Married early in life, her first labour was instrumental, but does not appear to have left any recollection of subsequent morbid symptoms in her mind. Two other

natural labours follow, and then three miscarriages. During the entire period of these miscarriages, however, severe uterine symptoms were present, as also a profuse yellow vaginal discharge, and severe uterine and lumbar pains, accompanied by great general debility. From that time she had never been free from these symptoms. Her general health improved during an absence from town—a fact which I daily observe in all forms of chronic uterine inflammation; but the improvement, was, as usual, only temporary. She again became pregnant, and was in a very bad state of health during her entire pregnancy, being daily expected to miscarry, and obliged repeatedly to have recourse to the application of leeches, owing to the intensity of the uterine pains which she suffered. From the time of her confinement until I saw her, she gradually became worse, and when she applied to me, was in a most deplorable state of pain, weakness, and debility. I firmly believe, from the history of the case, that she had been labouring under inflammation and ulceration of the cervix for years, and that the existence of the uterine disease was the cause of the miscarriages and of the last laborious pregnancy. I do not think it would have been possible, when she came under me, to prevent miscariage again occurring, with possible flooding and other serious results, had not the disease subdued. On the other hand, how could any but energetic local treatment hope to modify a large fungous bleeding surface, such as the one I have described?

It will have been remarked that the nitrate of silver was powerless to modify the vitality of the ulcerated surface, so as to bring on a healthy action. This is often the case with soft, flabby, bleeding ulcerations in this region, and when it is so, I resort to a more powerful caustic—generally the acid nitrate of mercury. This rule I follow in pregnant females, as well as in non-pregnant. The end to be attained is the modification of an unhealthy inflammatory sore; and if mild means will not suffice, there is no alternative; more powerful ones must be resorted to. The anterior lip of the cervix was, when I first examined the patient, considerably hypertrophied and indurated. The gradual softening of the indurated tissues as the pregnancy advanced, and as the inflammation subsided, is remarkable and important. This softening (which I now find to always take place in pregnancy) partly accounts for the rarity of induration of the cervix at confinement, although it is so common, as the result of inflammation, in the non-pregnant state. It also illustrates the *modus operandi* of deep cauterization of the cervix in the treatment of chronic intractable hypertrophy of that organ. As the local disease diminishes, we see the general health rally, and the pregnancy become more normal; until a short time after all inflammation has disappeared, we find that the patient has lost nearly all her old pains and morbid symptoms, and that her health is better than it has been for years. Considering the amount of disease, the duration of treatment was not great. The ulceration was healed, and all uterine inflammation subdued, within two

months. This would not have been the case, I think, in the non-pregnant state, with the same extent of disease; but, as I have stated, these ulcerative uterine inflammations, although so much more formidable in appearance with pregnant women than with the non-pregnant, seems often to heal more rapidly in the former than in the latter. This case is a proof of the correctness of what I have before asserted—viz., that extensive disease of the cervix does not prevent impregnation in some cases, although it may, generally speaking, act as an obstacle. I have now seen so very many cases in which, from the history of the patient, it is evident that the disease existed previous to impregnation, that my opinion on this point is firmly settled.

Lancet, Oct. 24, 1846, *p.* 446.

[The following is another interesting case related by Dr. Bennet, in another number of the *Lancet*. He was consulted at the Western Dispensary, by a delicate woman, thirty-nine years of age, for a severe pain in the lower part of the abdomen and back, accompanied with leuchorrhœal discharge. She had a miscarriage eight months before this, but she had not menstruated for the last three months. On examination, the cervix uteri was found low down in the vagina, hypertrophied and indurated slightly; this was in Nov. 1845. The treatment consisted in weekly cauterization of the ulcerated cervix with pernitrate of mercury or nitrate of silver, astringent vaginal injections, aperients, rest, and light diet. Dr. Bennet adds:—]

On the 4th of December, on attempting to examine my patient as usual, to my surprise, I found that since the previous examination, a week before, retroversion of the uterus had taken place. The cervix was high up behind the pubis, and could be scarcely reached with the finger, whereas the enlarged uterine fundus was lying low in the vagina, covered by its anterior parietes, and of considerable volume. It at once occurred to me that the patient was pregnant—a fact which I had previously suspected, and that retroversion had taken place, owing to some effort which she had made. I could not, however, bring her to recollect any unusual exertion, or shock, to which it might be attributed. She recollected nothing of the kind, nor was she aware that anything unusual had taken place, although she had felt, she said, much more heaviness and pelvic weight than usual, for the two or three days previous. I then attempted to reduce the uterus, but without the slightest success, although I resorted to all the usual means employed under such circumstances, including every possible change in position. On introducing the medius and index of the left hand into the rectum, I was able to grasp, as it were, the posterior region of the enlarged and retroverted uterus, but without being able to move it from its abnormal position. These efforts to reduce the retroverted uterus by position and manual manœuvres, were several times

renewed, at intervals of a few days, but without any more success; the patient all the while experieneing no other ineonvenienee from the altered position of the uterus, than inereased weight and bearing-down. There was no diffieulty in passing the urine, the cervix, although behind the pubis, not pressing against the urethra so as to diminish its ealibre. Not being able to expose the anteverted eervix with the speeulum, owing to its position, I was obliged to suspend the cauterization of the ulceration, and to trust to the astringent injections alone for its treatment.

[On the 2nd of January, Dr. Bennet again examined his patient, and found that the uterus had inereased very mueh in size sinee he first examined it, and the eervix pressed so much upon the urethra, as to oceasion dysuria. In consequence of there now being doubt as to the existence of pregnaney, from the rapid inerease of the uterine tumour, and from the retroversion being irredueible, Dr. Bennet considered it highly necessary to use Dr. Simpson's uterine sound, since dangerous symptoms would certainly result from allowing the uterus to remain in the position it was in, and if pregnaney actually existed, abortion was all that might be expected to follow; in order, therefore, to determine upon the real nature of the case, he held a eonsultation with his eolleagues. He observes:]

The above views having reeeived, after mature deliberation and examination, the sanction of my eolleague, Mr. Ancell, surgeon to the dispensary, and of an experieneed physieian-accoucheur, I proceeded to introduce the sound. This I found it impossible to effect in the lithotomy position, owing to the situation of the os behind the pubis; but on plaeing the patient in the usual obstetric position, the instrument, slightly eurved, passed into the uterine eavity without any diffieulty. Once within the uterus I made it describe, without any diffieulty, a semi-eircle, so as to bring the extremity of the instrument under the abdominal parietes, about a couple of ineches above the pubis Here I distinetly felt it, as did also the physieian alluded to. On introdueing, however, the right index into the vagina, the large tumor whieh occupied the pelvis was felt as distinetly as ever. Although the uterus appeared raised by the sound above the pubis. the tumor did not seem to have been moved. The sound was then gently withdrawn. No pain had been experieneed by the patient, nor was a drop of blood, or of any other fluid, lost.

The result of this examination was to eonvey the impression that the woman was not pregnant, that the pelvic tumor was not in the uterus alone, and that she was labouring under some ovarian tumor which had eontraeted extensive adhesions with the posterior wall of the uterus, and had, in its fall into the pelvis, dragged the uterus down. The investigation was not then pushed any further.

On the fifth morning from the day on which this examination took place, I was sent for to see this patient, who had miscarried

during the night, giving birth to a four-month's dead fœtus, which appeared to have been dead some time. The examination with the sound, she stated, had not been followed by any pain, nor by any loss of serum or blood; only during the last few days she had experienced very great difficulty in passing her water. The night before, she went to bed as usual, but was taken with labour-pains soon after twelve, and was delivered of the fœtus about five.

[The patient gradually recovered from her miscarriage, when an examination of the cervix uteri was again made; it was found in exactly the ulcerated condition that it was when the first examina- was made; the original plan of treatment was therefore resumed, and a cure was slowly but progressively effected. Dr. Bennet is of opinion, that the abortion which she had eight months before was caused by the ulceration of the cervix; he considers this a frequent cause of miscarriage.

This case shews that impregnation may occur during the existence of inflammatory ulceration of the uterine neck, which Dr. Bennet very much doubted when he wrote his Treatise on Uterine Inflammation.]

Lancet, July 25, 1846, *p.* 94.

[The acid nitrate of mercury is a fluid caustic. It is made as follows:—

To four parts of mercury add, in a retort, eight parts of nitric acid; as soon as dissolved, reduce to nine parts by evaporation. This fluid is a dense solution of the deuto-nitrate of mercury in an excess of acid.]

Lancet, Aug. 22, 1846, *p.* 228.

180.—*Excision of the Cervix Uteri for Carcinomatous Disease.*—By J.Y. Simpson, M.D., Professor of Midwifery in the University of Edinbro', &c.—[Dr. Simpson has performed the operation of excision in eight cases, five for carcinoma, and three for excrescences or morbid structures.]

Method of Operating; Complications and Consequences.—In performing the excision of the cervix uteri, in the three instances I have detailed, and in the other cases in which I have operated, I have proceeded on the following plan:—I have fixed one or two vulsella into the outer or vaginal side of the diseased cervix, as high as it was possible to insert them, and, by the purchase which they afforded, have gradually and cautiously dragged this part down in the lines respectively of the axis of the pelvic brim, cavity, and outlet, till it appeared so far beyond the vulva as to allow me to cut through the base of the protruding cervix. In one or two cases I used a knife in making the incisions. But in consequence of the powerful retraction under which the cervix uteri is placed during the operation, it is difficult, or indeed impossible, to make the incision in this way so equable and perfect as to remove with certainty all the diseased part. After a partial cut or two the uterus is

strongly retracted at the points of incision, and the remainder of the operation requires to be finished with the line of incision thus rendered irregular and confused. A pair of large, curved, blunt-pointed scissors, such as were used in this operation by Osiander and Dupuytren, is in this respect preferable. We are enabled by them to surround and embrace the whole cervix at once; and having cautiously and carefully adjusted their edges to the very points which we wish to divide, and thus calculated, at this preliminary step, the exact limits of the incision, we may then immediately complete the amputation of the part, by one or two strong and rapid strokes of the instrument. The blades must be placed around the cervix, above the line of the teeth of the vulsellum; and then our object is (as it were) to cut out the vulsellum along with the whole inferior and diseased part of the cervix, in which it is fixed. The operation is much facilitated by the labia being strongly pressed aside by broad copper spatulæ.

I have always placed my patients upon the face, the body being situated across the bed, and the lower extremities hanging over it, as in the operation for hæmorrhoids. We are thus enabled to make our incision through the cervix uteri from behind forwards, instead of from before backwards,—a matter, in my opinion, of no small moment. For if we cut in this latter direction, viz., from before backwards, we should sometimes run a great danger of opening into the peritoneum, which stretches downwards so much more behind than in front of the cervix uteri, and offers a very thin wall of partition between the cavity of the vagina and the cavity of the abdomen. Latterly, I have found the first portion of the operation, namely, the seizure and traction of the cervix uteri, much facilitated by using a very large and strong vulsellum, made with the common loose joint of the obstetric forceps, instead of the usual fixed pivot or scissors joint. With the common scissors-jointed vulsellum, whilst we are intent on fixing the teeth of one blade in a proper situation, the teeth of the other blade are always apt to become entangled in the tumor or walls of the vagina itself, and thus impede and embarrass the operator. But with the modification of the vulsellum that I have alluded to this difficulty is avoided, for the individual blades are introduced, adjusted, and fixed, separately and successively; and then, afterwards, they are easily united together for further use. Besides, in this way, we far more readily effect what are, I believe, the two principal secrets in the operation, viz., 1st: We fix both blades of the instrument, and more especially that corresponding to the diseased lip, as high upon the cervix, and as near its line of reflection upon the roof of the vagina as possible; and, 2ndly, by making our line of incision immediately above the hold of the vulsellum (as if our object were to cut out that instrument and the part which it embraces), we secure this important point, that the incision which we make is more likely, than if we followed any other plan, to pass through a stratum of healthy tissue, as we thus inevitably remove the whole vaginal portion of

the cervix uteri, and the diseased structure of which it is the seat. In thus attempting to insert the vulsellum as high as possible in the cervix, we shall succeed far better by guiding it directly to the point required by the finger and the sense of touch, than by attempting to direct it by the speculum and the sense of sight. In fact, if the cervix is, as generally happens, at all much increased in size, it is, of necessity, utterly impossible to see, with any speculum, the part in which the teeth of the vulsellum should be fixed,—that part lying much higher than the sphere of vision.

Several forms of danger have been found to attend upon excision of the cervix uteri. A fearful variety of nervous depression is alleged by some authors to supervene occasionally upon the operation. I have seen no instance of it. Severe hæmorrhage sometimes occurs, but it is much rarer than we might *a priori* expect. In only one case have I met with it to any considerable amount, and in that instance it was readily and effectually restrained by the plug. Out of nineteen private patients operated on by Lisfranc, Pauly avers that four died within twenty-four hours. Subsequently there is further danger to the patient from inflammation kindling up in some of the uterine structures, or in the peritoneum itself. Out of the eight cases in which I have operated, seven recovered perfectly. The remaining eighth patient recovered so far as to leave her bedroom, but was then, from an unfortunate domestic quarrel, subjected to great mental excitement, after which she relapsed, and died under symptoms resembling those of phlebitis. In his Operative Medicine, Velpeau, after stating that he had himself only operated in two cases, in one of which death occurred in three days, and in the other six weeks after the excision of the cervix, proceeds to remark: "A patient operated upon by M. Blandin died of uterine phlebitis; one of those that Lisfranc lost was carried off by peritonitis; others have sunk under a nervous state, the gravity of which it is not easy to explain. Up to the present time," he continues, "scarcely any one has been seen to die directly of hæmorrhage. Rust and Graefe, of Berlin, Roux and Dupuytren, who have all seen their patients perish from the immediate results of the operation, do not ascribe the fatal result to this complication (hæmorrhage). Excision of the neck of the uterus, although easy and by no means severe, is nevertheless sometimes extremely dangerous and speedily fatal. However, Osiander has practised it twenty-eight times, Dupuytren fifteen to twenty times, and Lisfranc forty to fifty times, without it having caused death more than once out of every six or seven operated upon."

Cases Adapted for the Operation.—Since excision of the cervix uteri is an operation attended with so many chances of danger, as Velpeau exposes in the passage which I have quoted, it evidently follows that it should only be adopted in cases, and under circumstances, in which milder and safer means of cure are insufficient. The forms of disease in which, upon this principle, it seems justifia-

ble to avail ourselves of the aid of this operation (supposing no contra-indication to be present), are, in my opinion, principally:

1st. Great morbid hypertrophy, by elongation, of the vaginal portion of the cervix uteri. I have operated successfully in two such cases.

2nd. Corroding ulcer, when limited to the lips of the cervix, and pathologically identical with the form of lupus or malignant ulcer so well known in the face; and

3rd. Circumscribed and local forms of carcinomatous disease or excrescence, of the lips and lower segment of the cervix uteri.

Supposing that we discover, by a proper physical diagnosis, that true carcinoma of the uterus is present, is the case consequently to be looked upon as always utterly hopeless?

I believe that in forty-nine instances out of every fifty in which we find the uterus or any part of it, the seat of true carcinomatous deposit, the disease inevitably leads, sooner or later, to a fatal termination. The rapidity of its march is various, and may deceive an incautious observer by its duration. I have known death occur a few weeks after the disease first attracted the special attention of the patient; and I have had occasion to watch the course of a case, where the patient dragged on a miserable existence for seven years after the discovery of the malady by the late Dr. Hamilton. But whilst thus fatal in almost every instance, there are still, as we have already seen, some rare varieties or forms of carcinoma uteri, that are apparently within the just range of surgical treatment. And one condition favouring this is the generally admitted fact, that the disease almost always begins in, and, for a time, is limited to the structure of the lips and cervix of the uterus. Professor Rokitansky, of Vienna, perhaps the most profound and experienced morbid anatomist of the present day, in speaking of the first locality and origin of cancer of the uterus, observes: "Carcinomatous induration generally limits itself to the vaginal portion and cervix, and very often in a defined and sharp manner." In another paragraph he remarks: "The primitive seat of cancer is always the cervix uteri, and first of all and particularly the vaginal portion. The primary appearance of cancer in the fundus uteri is limited to so extremely rare cases, that what we have just said remains one of the most fixed rules. "It forms," he adds, "in this respect, a contrast with fibrous and tuberculous tumors of the uterus, a contrast which also holds with regard to its involving the parts around, and its ulcerative destruction.

In relation to the same question, we must bear in recollection another circumstance in the natural history of carcinoma uteri, granted by most of the best pathologists who have written upon this disease. "Uterine cancer," observes Professor Walshe, one of the latest and most learned writers on the subject, "is commonly primary and possessed of comparatively slight tendency to contaminate the system generally." And again: "There can be no

question that the womb ranks among those organs less prone than certain others, as, for instance, the mammæ and testes; to contaminate distant viscera. Among thirty-seven females, cut off by uterine cancer, and examined by M. Ferrus, seven only exhibited secondary formations elsewhere.

In these two important respects, therefore, uterine carcimona presents conditions favourable for surgical interference. Still, however, in order that a case may offer any chance of operative success, several conditions seem requisite:

1st. The disease must be in an early stage.

2nd. The morbid structure must be strictly limited to the lip or lips of the cervix, or at all events be distinctly situated below the line of reflection of the vagina upon the cervix uteri.

In actual practice, however, it rarely indeed happens that the above combination of circumstances is met with, because, in truth, the medical attendant is very seldom called in till the disease is so far advanced as to have passed the limits in question. In fact, cancer uteri generally proceeds throughout its first stage of deposition and induration with such slow and stealthy steps, that the attention of the patient is not awakened to its presence by any particular local symptoms; and it is commonly not till the malady is advancing or has advanced towards its higher states of morbid development and disintegration, that a sudden and unaccountable loss of blood, or the unexpected appearance of some purulent or sanious discharge, or the supervention of uterine pain, first rouses the lurking suspicions of the sufferer to the nature of the fearful fate that is impending over her.

3rd. Future inquiry will in all probability prove that there are some varieties, types, or species of carcinoma of the cervix uteri which are much more within the pale of surgical treatment than others. I believe this last to be a most important subject of inquiry; but it is confessedly a department of uterine pathology to which (valnable as its results may be) no labourer has as yet directed his attention.

Dublin Quarterly Journal of Medical Science, Nov, 1846, *p.* 352.

181.—*On Passive Congestion of the Uterus.*—By James Milman Coley, M.D., Physician to the Western Dispensary, &c.

When a state of anæmia occurs during pregnancy, the veins and lymphatics of the uterus are liable after abortion or labours to remain in a state of atony, which renders them in some instances incapable of recovering their original diameter, unless sufficient rest is allowed in the horizontal position. Hence, those puerperal women who are compelled or induced to resume the upright position prematurely, while labouring under this state of cachexy, are apt to experience severe and lasting misery, from pain in the back, and a sensation resembling that produced by prolapsus uteri,

whenever they attempt to walk or remain long in the erect posture. On examination we discover a soft, doughy, indolent, compressible tumor, occupying some part of the uterus towards its cervix. Pressure with the finger leaves an impression resembling that from œdema in the extremities, and little or no uneasiness is perceptible by the patient from the pressure. The shape of the tumor is oval, its long axis corresponding with that of the uterus, and its size varies. It may be distinguished from carcinoma by the absence of pain, tenderness, and induration, and by the healthy condition of the cervix and os uteri; and from the fibrous tumor of the uterus, by its characteristic softness. On examining the morbid part with the speculum, it appears injected with venous blood, which appearance I believe proceeds from the retardation to the return of blood in the venous capillaries, and the consequent distention of the mucous membrane. Unless removed by proper remedies the disease may continue many years.

Treatment.—As long as the process of sanguification is interrupted, and the elements of the blood disturbed, the vessels circulating that fluid will be found to partake of the general enervation: the contractile power of the vessels, as well as other vital functions, being found defective. Hence, a constitutional remedy will be necessary, as well as the collateral assistance to be derived from a favourable position of the body; for it must be observed that the preternatural distention of the veins and absorbents, and the consequent infiltration of serum into the cellular membrane, are the result of a passive congestion, having but little disposition to terminate in inflammation. The essential treatment, therefore, consists in the exhibition of iodide of iron, which operates by removing the deficiency of fibrine and hematosine in the blood, and promoting the absorption of the lymph effused into the cellular membrane, the natural consequence of venous and lymphatic obstruction. Some practitioners recommend uninterrupted decumbiture, with or without scarification of the cervix uteri. I have seen the horizontal position continually employed during many months without observing any improvement in the tumor; and I believe it will be found that no patient in a state of anæmia can bear such constant confinement without increasing the constitutional disorder. Having never found it necessary in the treatment of this disease to have recourse to scarifications, I cannot speak of their effect, although it appears to me they may be calculated to afford temporary relief, should the disease be found to extend to the cervix uteri.

Medical Gazette, Sept. 18, 1846, *p.* 492.

182.—*On the Nature of the Membrane occasionally Expelled in Dysmenorrhœa.*—By J. Y. Simpson, M.D., &c.

It is now generally known, that in some cases of dysmenorrhœa, an organised membrane is expelled, during the period of the catamenial discharge; and that this happens either occasionally only, or

what is far more common, during a long succession of menstrual periods.

"All authors who have expressed an opinion regarding the nature of this membrane have, as far as I am aware," observes Dr. Simpson, "regarded it as a morbid structure, formed by the exudation of coagulable lymph or fibrine upon the free surface of the mucous membrane of the uterus."

In the number of cases examined by Dr. S. from time to time, the form and structure of these dysmenorrhœal membranes led him to believe that they were not new or false membranes formed of coagulable lymph, and secreted by the mucous surface of the uterus, but that they in reality consisted of the mucous membrane of the uterus itself, hypertrophied and separated. "All my later observations have gone to confirm me in the same opinion, viz., that the productions in question are not the results, as is generally supposed, of fibrinous or plastic *exudations* upon the free surface of the mucous membrane, but that they consist of actual *exfoliations* of the membrane itself."]

The proof of this opinion rests upon different grounds:—

First, The dysmenorrheal membrane presents anatomical peculiarities that are never seen in any simple fibrinous or inflammatory exudation; and these anatomical peculiarities, on the other hand, specially pertain to, and are characteristic of, the structure of some mucous tissues, such as that of the uterus. One special illustration may suffice. Professor Reid, Krauss, and others, have shown, that the surface of the mucous membrane of the uterus is marked by numerous orifices of small tubular glands, crypts, or follicles, opening upon it (the uterine glands of some modern authors). This structure I have distinctly traced in different specimens of dysmenorrheal membrane from different individuals.

Secondly, The general configuration and character of the surfaces of the dysmenorrheal membrane are such as would result from the origin which I have attributed to it, namely, the exfoliation or detachment of the mucous membrane of the uterus. In those instances in which the membrane is thrown off in one piece, and without disintegration, it presents exactly the flattened triangular appearance of the uterine cavity. Its sides may be so compressed that the expelled mass at first appears solid; but a little careful dissection or maceration will readily show that it consists of two layers, and that there are the remains of a cavity between them. The interior of the cavity is smooth, and marked by the orifices of the uterine mucous crypts that I have above alluded to. Occasionally we can easily trace three large openings at its three angles, corresponding to the openings of the two Fallopian tubes and cervix uteri. But the external surface of the mass is rough and shaggy, marking the effects of dilaceration from the tissue of the uterus. Sometimes we see a piece discharged quite smooth on one surface, and rough on the other. When this is the case, we may be

perfectly certain that it is a portion only of the membrane which has been expelled, or, at least, preserved for inspection. For if the portion of mucous membrane lining the anterior wall of the uterus alone, or lining its posterior wall alone, be discharged and examined (and not that of the whole cavity), it will necessarily display the apparent anomaly alluded to. If the membrane is thrown off in broken or disintegrated fragments, as sometimes happens, it will be more difficult to trace the structural characteristics that I have mentioned. Another form of difficulty is occasionally produced by blood being infiltrated into or upon the dysmenorrheal membrane. In some instances the membrane is found encased in one or more layers of coagulated blood; and if that blood has already become decolorized, and assumed a fibrinous appearance, mistakes might easily occur, provided the inquirer were not aware of this source of fallacy.

Thirdly, The dysmenorrheal membrane exactly resembles the decidual membrane (the decidua vera); and all our highest authorities in anatomy are, I believe, now willing to grant that, as pointed out by the researches of Sharpey, Weber, Goodsir, and others, the decidua vera is not a new membrane, formed in the uterus after conception, but merely the normal mucous membrane of the uterus hypertrophied, with its mucous crypts or follicles increased in size, and the cells of its interstitial tissue greatly developed and multiplied. In the dysmenorrheal membrane the mucous follicles or crypts are perhaps not enlarged and developed to the same proportionate degree as they are in the decidual membrane. In other respects the two membranes are identical. They have the same triangular form. There is the same appearance in both of openings at their three angles, and in both these openings are occasionally more or less perfectly sealed up when the tissue of the membrane, in their immediate neighbourhood, is developed in an unusual degree. The external surface of each membrane has the same shaggy, ragged form. In each we have the same cribriform appearance upon their smooth internal surface, marking the orifices of the mucous follicles. When examined under the microscope, the interstitial or inter-follicular tissue of both membranes, shows a similar structure, namely, one wholly composed of an agglomeration or superposition of simple nucleated cells. And altogether, if, on the one hand, it be allowed that the structure of the decidua proves it to be the mucous membrane of the uterus in a state of high development and hypertrophy, then, on the other hand, the structure of the dysmenorrheal membrane is so similar to that of the decidua, as to prove a perfect identity with the decidua in its characters, and consequently, also in its origin.

In some respects the evidence which we have in favour of the decidual membrane being merely a hypertrophied state of the mucous membrane of the uterus, is still wanting, in so far as regards the dysmenorrheal membrane. For, *first*, in cases of patients dying at different periods of early pregnancy, a regular progression

of observations has now been made, showing the gradual transformation of the true mucous into the true decidual membrane; and, *secondly*, in patients dying after delivery, and, consequently, after the separation of the decidual or lining membrane of the uterus, the actual absence of the mucous surface of the uterus has been often ascertained on dissection. I lately saw a case where the patient died six weeks after delivery, and still, at that late date after confinement, the mucous lining of the uterus was not yet regenerated. No corresponding series of observations has hitherto been made upon the actual formation of the dysmenorrheal membrane before menstruation, or upon its actual absence after that period. But a more careful investigation of the state of the uterus after death, in patients who have happened to be suffering under membranous dysmenorrhœa during life, will, I have no doubt, afford the requisite data. It may not be uninteresting to add, that the absence of the mucous lining of the uterus in persons who have died after delivery, or who have been previously subject to membranous dysmenorrhœa, may have given rise to the strong opinions expressed in former times by several anatomists, and particularly by Morgagni, Chaussier, and Gordon, in regard to the human uterus not being normally provided with a mucous membrane. Not meeting with that membrane under some circumstances and in some cases, they were induced to doubt its presence under any circumstances or in any cases.

Modern physiology has made us sufficiently acquainted with the curious fact, that a portion of the epithelial layer of the mucous surface of various organs, exfoliates constantly and normally during the performance of the special functions of these organs. For instance, this holds true with regard to the epithelium of the stomach during digestion, and that of the uterus during menstruation. But there are few circumstances, either in healthy or morbid anatomy, so strange as that which I have attempted to prove in the preceding remarks, namely, that the proper mucous tissue of the uterus itself may, within the compass of a menstrual period, form, enlarge, separate, and again be reproduced; and further, that all this may occur and continue regularly for a succession of months, or, as sometimes happens, for a succession of years.

I have no intention, however, at present of dwelling either upon the various pathological or practical views to which the opinion that I have above propounded regarding the origin and nature of the dysmenorrheal membrane, very evidently points. It is enough perhaps to remark, that the observations which I have made go to demonstrate that the dysmenorrheal membrane is not formed, as is generally believed, by a simple inflammatory effusion of plastic or coagulable lymph, and hence it is not to be successfully prevented and combated by simple anti-inflammatory treatment. The action giving rise to it may in some cases be combined or complicated with inflammation. I have seen, for example, the membranous dysmenorrhœa in several instances co-existing with inflammatory

induration and ulceration of the cervix uteri. But essentially, the normal action of the uterus or ovaries giving rise to the formation of the dysmenorrheal membrane is not a state identical with inflammation, but a state identical with the condition of these organs after impregnation and during the earlier weeks of pregnancy. It is so far a state and product natural to one special condition of the uterus, but here occurring at an unnatural time, under unnatural circumstances, and with unnatural frequency.

Monthly Journal of Medical Science, Sept. 1846, *p.* 161.

183.—*Observations on Uterine Polypi and Ulceration, with Cases.*—By W. F. Montgomery, A.M., M.D., &c.—[Dr. Montgomery has treated more than thirty cases of uterine polypi under his care, on which he has operated by different methods, the history of most of which he brought before the notice of the Dublin Obstetrical Society lately. The first of these cases was one of cauliflower excrescence of large size, which was removed by ligature; it returned again after some months, the patient having good health in the meantime. In speaking of uterine polypi, Dr. M. observes that:]

Polypus, even when of very small size, is frequently accompanied by ulceration of the labia of the os uteri; this combination will be noticed in several of the cases to be hereafter detailed.

These ulcerations are, I believe, in general produced by the polypus, or owe their existence to its formation, rather than to the operation for its removal, which, however, may occasionally produce such an effect; they will sometimes heal without treatment on the removal of the polypus, but, as frequently, they will not: it should, therefore, be a rule to examine such cases with the speculum before we pronounce them quite well, lest we should only cure the patient of one-half of her disease, and leave her to the consequences of the other.

Dr. J. Henry Bennet has called attention to this fact, and brought forward some illustrative cases in a paper which appeared in the *Lancet* last year.

[In the second case there was a small polypus, accompanied with symptoms of prolapsus uteri and ulceration of the os uteri. The polypus was removed by excision, and attended with considerable hæmorrhage. The case did well. The polypus was as large as a Windsor bean, and very high up: a speculum being introduced, Dr. M. snipped the pedicle across, and applied nitrate of silver to restrain the bleeding. He was afterwards obliged to use styptic lotions and plug the vagina. He in future resolves to "twist off these small polypi instead of cutting them."

Hæmorrhage, after cutting through the pedicle of a polypus not thicker than a quill, has been known to occur to such an extent as to endanger life. Dr. M. observes:]

The next case to which I shall refer, was one which strongly

attracted my attention to the influence which even the very smallest polypi, at the os uteri, may have in giving rise to and keeping up, profuse menorrhagia, accompanied by ulceration.

Case 3.—*Very small polypi at the os uteri, producing profuse menorrhagia and ulceration; removed by torsion.*

The patient in this case was a young woman, aged twenty-five. She had been married more than a year; had no child; was affected with almost constant menorrhagia, without any pain, under which she had become completely exsanguined; her whole surface was of a corpse-like white, and partially œdematous; she was greatly enfeebled; her appetite very bad, and her stomach irritable; altogether she was in a most miserable, broken-down state. To the touch, the os and cervix uteri felt natural, both as to size, figure, and consistence; but the margin of the os had an indistinct velvety feel, which led me to suspect a slight ulceration, and to use the speculum, which disclosed two very small polypi, not larger than grape stones, and attached by pedicles immediately within the os uteri, the margin of which was slightly ulcerated.

I caught these growths with a forceps, and twisted them off, and with a pencil of lunar caustic, cauterized the spot from which they grew, and the ulcerated surface also, which, after a few similar applications, healed.

[This patient took chalybeates, with gentian, and within two months was quite well. She had taken a great deal of medicine; this local disease, producing so much debility, having been overlooked]

Case 4.—*A very small polypus at the os uteri, causing profuse menorrhagia, with ulceration.*

I was requested to see this patient on the 4th of October, 1845; she was about fifty years of age, and fourteen years a widow; she was affected with profuse menorrhagia, and slight semi-purulent discharge; she was blanched, and had pains in the back and loins.

By the touch, no appreciable alteration in the os or cervix uteri, as to size, figure, or consistence, could be detected; but the margins of the os felt velvety. On applying the speculum, a superficial ulceration was seen, surrounding the os uteri, to a breadth of about one-eighth of an inch all around, and on applying a brush to wipe away the muco-pus from between the labia of the os, a small polypus, about the size of a pea, appeared, attached by a pedicle. Not having a proper forceps at the moment, I merely touched the part over with lunar caustic, intending to twist off the polypus at my next visit.

October 9th. On bringing the parts into view, I found that the body of the polypus was gone, and only its pedicle remained, which I believe to have happened in the management of the speculum, which I found considerable difficulty in adjusting, so as fully to ex-

pose the os; the remains of the pedicle I twisted off, and cauterized the ulcerated surface with nitrate of silver: cicatrization soon followed, and the menorrhagia ceased. The words of Gooch might be, with propriety, applied to this and the preceding case—"That the hæmorrhage depended on the polypus, however small, was proved by the event, for they ceased on its removal."

[In his 5th case there was an encysted ovarian tumor, and tumors in the labia pudendi, as well as two small polypi at the os uteri—co-existent with which there was considerable ulceration.

These polypi were removed by torsion, the surface afterwards was rubbed over with nitrate of silver, and the patient quite cured.

In his 7th case there was a very small polypus, accompanied with extensive ulceration and thickening of the cervix uteri. The polypus was not discoverable by the finger; but on applying the speculum, it could be seen of a bright crimson or raspberry colour, the size of a pea. It was destroyed by caustic, and the ulceration treated in the ordinary way: she got quite well. Dr. M. remarks:]

Why, it may be asked, do these small polypi, accompanied by ulceration, thus elude detection by the finger? First, on account of their small size; secondly, because of their softness and extreme mobility; and thirdly, because, under the peculiar circumstances, the labia of the os uteri are congested and enlarged; and, projecting more than natural, enclose betwen them, and as it were, protect these small polypoid excrescences, so as they cannot be felt by the finger; and, I should add, that if an examination be made by the plain tube speculum, they may still escape observation, especially if the cervix uteri be retroverted; for, in order to bring them fairly into view, it is often necessary to cause separation of the lips of the os, which the plain tube speculum will not do, but which is readily accomplished by the expanding speculum of Ricord.

These growths, which I have here called raspberry polypi, are found, possessing very similar characters (except as regards sensibility), in other situations; having in common,—their development in the entrances to cavities lined by mucous membrane, and surrounded by sphincters. Thus, they are found within the anus, at the entrance of the vagina, in the meatus urinarius; and also in the external meatus of the ear; and wherever existing, they are almost always accompanied by more or less of superficial ulceration of the mucous membrane of the part. Their structure appears to be the same in all these situations; but while those that form at the os uteri are quite insensible, in other situations their sensibility is generally very marked, and sometimes intense; but not always, for I have met with instances in which those vascular tumors have been completely devoid of sensibility, even when growing from the meatus urinarius, in which situation they are, in general, most exquisitely painful.

These small polypi and polypoid excrescences of the os uteri are of more importance than their size would at all lead us to anticipate: at whatever period of life they may be found, or however small they may be, they are accompanied by increased vascular action in the cervix uteri, producing often ulceration, and, of course, debilitating discharges, and a train of symptoms, which, although perhaps so slight in their character, individually, as almost to escape observation, yet have the effect of seriously deranging many of the most important functions of the economy, and of inducing a very miserable state of health; thus, in case 3, two little polypi, not larger than grape-stones, and accompanied by slight ulceration, had nearly brought the patient to the verge of the grave; and their removal was quickly followed by restoration to perfect health.

These small polypi are seldom solitary: where you find one, there is very often another, either discoverable at the moment, or soon to appear; they, like other forms of polypus, are frequently conjoined with other diseases, especially with fibrous tumor. I have in my museum several specimens of these combinations: in one instance, there are two of these small growths in the cervix, and two bony tumors in the uterus; in another, there is a small polypus growing from within the os uteri, a larger one within the cavity of the organ, and a fibrous tumor in its substance.

In case 5 there appeared first a polypoid excrescence, and then a little true polypus, and these, in conjunction with encysted tumors of the ovary, and also in both labia externa. When they occur in women of advanced years, say from sixty to seventy, they are often the precursors of something worse, especially when of the vesicular kind. You may readily remove them, of course, but too often you will be disappointed in the result; the discharges return; you examine,—there is no reappearance of the polypi; but the discharges go on, after a time pain sets in, and ultimately the patient dies, after a long series of sufferings; and if the uterus is examined, it is found enlarged, but not much, with its internal surface eroded with ulcerations, and covered with fungoid excrescences. We should, therefore, be cautious in promising too much, when called on to treat these small growths, for, although, in most cases, our success is complete, we are liable to disappointments.

I have now to notice another source of error, of an opposite kind to that just discussed, which I have frequently met with in practice; I mean, a tumefied and somewhat elongated condition of the extremity and inner surface of the anterior lip of the os uteri, produced by the increased vascular action accompanying a long-standing ulceration of this part, which gives it so much the character of a distinct tumor proceeding from the os, as sometimes to lead to its being mistaken for a polypus. The peculiar form of the os uteri, in these cases, tends rather to confirm this error, its lateral commissures being drawn upwards and forwards, while the tumefied anterior lip stretches downwards and backwards, producing con-

siderable apparent retroversion of the cervix. The orifice assumes nearly the form of a crescent, and seems to encircle the tumor, which, however, it does not, but the posterior lip feels thinned, and partially drawn over the anterior, somewhat like a hood. The diagnosis is really not difficult, once attention is called to the matter, and we readily ascertain, by obvious points of distinction, that the tumor thus felt is the anterior lip itself in an altered condition, and not a polypus attached to it, or lying within the circle of the os. For the present I will only add that this tumefaction yields, but very slowly, to scarifications and cauterization conjoined to constitutional treatment; and a portion of its surface will remain prominent and unhealed long after the rest of the ulceration has cicatrized. In proportion, however, as this hypertrophy of the anterior lip diminishes and fines down, the apparent retroversion of the cervix gradually lessens, and at length disappears.

The following case affords a good illustration of this form of disease, which also existed in cases 5, 6, and 7, though not to an equal degree.

Case 8.—*Extensive ulceration of the cervix uteri, with prominent hypertrophy of the anterior lip of the os, mistaken for a polypus; cured by scarification and cauterization, &c.*

A lady applied to me for advice, in consequence of having been told that she had a tumor protruding through the mouth of the womb, which would require removal by a ligature.

She complained of much pain in different directions through the pelvis, loins, and down the thighs, with bearing down, and what she called "a bursting feel," together with purulent discharge; her general health, strength, and spirits were very much impaired. On examination with the finger, I discovered the tumor alluded to, but it was evidently not a polypus, but a portion of the anterior lip of the os uteri, projecting in the way just described, and covered with granulations, so much developed, that I could distinguish them quite plainly by the touch.

When the speculum was used, this became still more evident, and the enlarged anterior lip presented, in colour and granular surface, an appearance exactly resembling that of the raspberry polypi already mentioned; but this portion of the cervix was so much enlarged and retroverted, that a full view of the os uteri could not be obtained until after the lapse of more than a month; by which time, a great reduction in size was effected in the hypertrophied part by repeated scarifications, cauterization with the acid nitrate of mercury, together with rest, aperients, the internal administration of hydriodate of potash, and the use of the warm bath. At the end of three months I had the satisfaction of finding the tumor removed, and the ulceration healed.

In such cases as these then, (and they are common enough), a growth of this kind may be mistaken for a polypus, when no such thing exists; while, on the other hand, we have just seen that where

small polypi really do exist, they may readily be overlooked, except great care be exercised in making our examination.

[The history of several other cases shows us that in removing these tumors by ligature, we should not take it for granted that when the canula comes away the polypus is detached. The latter indeed may take place, and the canula remain adherent. On the other hand, the instrument often comes away, leaving the polypus, although detached. When this occurs, the polypus is generally large, and cannot escape from the vagina; it ought, as soon as possible, to be extracted by the finger. This is a practical point worth observing. In cases 11 and 12, the polypus was taken for carcinoma; it is probable this was owing to the examination being made just at the time when the tumor was descending through the cervix, causing it to assume an unnatural form and consistence.

In one of Dr. Montgomery's cases, the tumor, when he first made an examination, was fibrous, and attached to the posterior wall of the uterus. It gradually descended, and assumed a pedunculated character, and was removed by ligature. Dr. M. adds:]

The instrument which I have always used for applying the ligature is the double moveable canula of Niessens, and I have never yet met with a case which was not manageable by its means.

The ligature which I prefer to all others, and always use, is silk salmon fishing-line, prepared by soaking it in linseed oil, in which state it combines the necessary qualities of great strength, perfect pliability and softness, and remaining unaffected by moisture.

The forceps alluded to in case 5, which I find very useful for twisting off small polypi, consists of a straight stem, about eight inches long, set in a handle; at the extremity of the stem are two short spring blades, with serrated tips, upon which slides a brace moveable from the handle, by which they are easily pressed firmly together, and made to grasp very securely any object caught between them.

Of the thirty cases operated upon, one only terminated fatally, which, considering the wretched condition in which many of the patients were at the time of the operation, and some of them for months or years before it, is an encouraging and satisfactory result; but it should not be forgotten that the cure of polypus of long standing, and accompanied with large discharges, is, under certain circumstances, associated with a risk which claims careful consideration.

Experience has taught me, that if a woman has for many years laboured under polypus, with constant and large discharges, and if she be naturally of a full habit and inclined to good living, and especially if she be of such an age that, after the removal of the disease, menstruation is not likely to recur, there will be danger of determination to the head, as in other cases of suddenly suppressed discharges.

It will, therefore, be the duty of the medical attendant, to pre-

scribe such a carefully regulated system of diet and medicine as he will deem best suited to prevent the occurrence of plethora and cerebral congestion, which I have seen take place fatally, under such a combination of circumstances.

From the foregoing cases and remarks it may be collected—

That very small uterine polypi, or polypoid excrescences are of frequent occurrence.

That they are often not discoverable by touch alone, and so escape notice.—See cases 3, 4, 5, 6, 7.

That they may even elude detection with the speculum, especially if the instrument used is not capable of separating the lips of the os uteri.

That they are a common cause of ulceration and menorrhagia, one or both; the cure of which requires, as a preliminary step, the removal of the polypus.—See cases 3, 4.

That while thus on the one hand, a small polypus may escape detection, there is, on the other hand, a peculiar condition of the anterior lip of the os uteri liable to be mistaken for a polypus, and requiring a long time for its removal.—See cases 5, 6, 8.

That the very small polypus of the os uteri is seldom solitary, and in common with polypi of other kinds, is very often combined with other diseases of the uterus, especially with fibrous tumor.

That these small polypi of the os uteri, when occurring in women of advanced age, especially if they are of the vesicular kind, are often the precursors of a malignant form of uterine disease.

That polypus being very frequently accompanied by ulceration of the os and cervix uteri, and its concomitant pain and structural alteration, the symptoms are occasionally mistaken for those of cancer; which error is most likely to be committed if an examination should happen to be made just when a polypus of rather large size is passing through, but still engaged in, and distending the os uteri.—See cases 9, 10, 11, 12.

That in cases of larger sized polypi, ligature is the means most generally eligible, as being safer than excision, though not so expeditious; its application having, in general, the immediate effect of restraining the morbid discharges, and alleviating other symptoms, (as in cases 11, 13, 14,) and ultimately curing the disease.

That polypi and polypoid excrescences of small size are best removed by torsion; or in some instances their destruction may be conveniently effected by caustic.—See cases 3, 5, 6, 7.

That with large polypi torsion is unsafe and should not be attempted.—See case 20.

That even with a polypus of small bulk and slender pedicle, excision is not free from the risk of troublesome hæmorrhage, (see case 2,) while with those of large size there is great reason to apprehend such an occurrence taking place to a very dangerous degree, even though the precaution may have been taken of firmly constricting the pedicle with a ligature previous to its division.—See case 17, and remarks on case 16.

That in ordinary cases of benign polypus, when no other disease exists in the uterus, the removal of the tumor by ligature or other suitable means, is, in the vast majority of cases, completely successful, even under circumstances apparently quite hopeless.—See cases 11, 13, 14, 18.

That in malignant growths, such as cauliflower excrescence, removal by ligature will sometimes effect a complete cure; and that, where the success is not so decided, much good may be done by the operation.—See case 1.

That the situation from which a polypus springs makes a considerable difference in the symptoms which it produces; a polypus of the lip of the os uteri giving rise to fewer symptoms and much less discharge, as in cases 2 and 14, than one of very inferior size growing from any part within the os uteri.—See cases 3, 4, 5, 6, 7.

That a polypus of only moderate size growing from the lip of the os uteri is not likely to interfere, injuriously, with gestation or delivery, and its removal may be effected by, or as a consequence of, the pressure which it sustains during the expulsion of the child. —See case 15, and remarks thereon.

That if a polypus, already detached, be too large to pass readily out of the vagina, it ought not to be allowed to remain there, but should be removed with the least possible delay, as its putrefaction may be attended with very unpleasant consequences.—See cases 11 and 12, and remarks thereon.

That a fibrous tumor, originally formed in the substance of the uterus, may thence descend, pass through the os uteri, and form an ordinary pediculated polypus in the vagina.—See cases 12 and 13, and observations thereon.

That in the unimpregnated state of the uterus, this change will be effected gradually, and in general very slowly, as in cases 12 and 13; but that, should pregnancy occur, the descent and expulsion of the tumor may take place quickly under the expulsive action of labour, as in case 19, and probably in case 18 also.

That a polypus, even of large size, may thus make its appearance for the first time, immediately after delivery, no suspicion having been previously entertained of its existence.

That the cure of long-standing polypus, with large discharges, is liable to be followed by a condition of the system requiring precautions against determination to the head.

Dublin Quarterly Journal of Medical Science, Aug., 1846, *p.* 31.

184.—*Observations on Disease of the Vagina and Urethra.*—By Dr. Mitchell, Dublin.—[In all cases where there is reason to suspect disease of the neck of the uterus, it is a good precautionary measure to employ the speculum where not really contra-indicated.]

The treatment that I have found most useful for the vulvular inflammation has been the frequent use of the hip-bath and poppy-head stupes, until the more urgent symptoms of inflammation have

subsided. The irritation and itching has been best allayed by the application, three or four times a day, of a solution of nitrate of silver in the proportion of a drachm to the ounce of distilled water. In some cases I have found benefit by alternating the caustic solution with tincture of matico, applied in the same way—viz., by tying a small piece of sponge on the end of a stick, or with a camel's hair pencil.

We shall also derive benefit from the internal exhibition of mild saline purgatives, rest, and sea-bathing; it will frequently, however, occur, that after almost all our remedies have failed, and that the disease has been of considerable standing, that the administration of alterative doses of mercury will effect a cure, although not the slightest trace of syphilis be present. The preparation I have used most frequently has been the Plummer's pill, five grains night and morning.

I have also seen much good effected by giving twenty-drop doses of Brandishe's alkaline solution in an ounce of any bitter infusion, such as gentian or quassia, two or three times a day. When the pain in the back is troublesome, being frequently more of a dull aching feel than acute pain, the application of the cautery to the sacrum affords very great, and in many cases instantaneous relief. To this method of treatment I have before called the attention of the profession for uterine leucorrhœa in a paper read before the Surgical Society, and have since used it most extensively, not only in the above named affection, but also for the one under consideration, and with very great success.

The method of using it is now quite familiar, so that I need not dwell longer on the subject. Besides the plan of treatment alluded to as having been adopted in this affection, I may mention that the various soluble salts of lead, zinc, and mercury, narcotic preparations, borax, hydrocyanic acid, &c. have been used. With some practitioners the exhibition of balsam copaibæ, and the application of bread crumb soaked with liquor plumbi diacet, has proved useful, and in some cases effected a cure. Gelatine and bran baths have been also much extolled.

On looking over the registry I find a vast number of cases of this affection complicated with different vaginal and uterine diseases.

Dublin Medical Press, Oct. 7, 1846, *p.* 225.

185.—*On Follicular Disease of the Vulva.*—By Henry Oldham, Esq.—[Mr. Oldham has met with several cases of a form of disease attacking the follicles which are freely scattered over the mucous membrane of the vulva. It is a painful affection, very difficult of cure, and is attended with leucorrhœal discharge. Mr. Oldham observes:]

There is a form of follicular inflammation which, generally speaking, is not lasting, which causes some smarting and itching about

the vulva, and in which the follicles or the inner surface of the nymphæ and about the vestibule are raised into little seed-like spots. I have noticed it in some cases as preceding or immediately following the menstrual period, and sometimes as directly connected with disease of the cervix, or some remoter part of the sexual organs.

But the disease I am now describing is very generally limited to two symmetrical strips of mucous membrane, at the posterior half of the entrance of the vagina within the nymphæ, and a detached portion just beneath the urethra. There has been quite sufficient uniformity in its situation at these parts to warrant me in fixing on them as, at least, the most common seat of the affection. If an examination is made at an early period of the disease, a number of small, circular, highly injected points are seen, and the mucous membrane looks much inflamed. At first these points are solitary, and slightly raised on the surface, and a minute speck of ulceration is frequently seen in their centre. These, I believe, correspond to the follicular crypts of the mucous membrane, and the ulcerated portion to their central pore. After a time the points lose the appearance of being isolated; they coalesce, and a band of vividly injected membrane is formed.

The sphincter vaginæ is always contracted, and the mucous membrane is much punctured, and in several cases I have seen the disease extend to the lowest folds of the vagina; the tops of which become very red, and bleed on being touched or separated. I have only seen one case in which the whole tract of the mucous membrane of the vagina was similarly affected. When the disease has been of long standing, a change may be observed in the colour of the mucous membrane of the vulva, and the lowest part of the vagina. It assumes a white appearance, as though some white paint had been diffused over the surface. This occurs particularly in women who have ceased to menstruate, and is not confined to the present disease, as I have seen it well-marked in protracted cases of prurigo of the vulva. The disease in question is most intractable, it has all the inveteracy of some of the more chronic skin diseases, and it will torment a person for years, sometimes getting better, and again returning as bad as before.

It is difficult to assign the causes which produce this disease. It certainly is not connected with syphilis, nor has there been any habitual want of cleanliness to account for it. It followed marriage only in one case, and I have not seen it associated with intestinal worms. From the first I suspected that some other part of the sexual organs might be primarily affected, and one case is interesting as shewing a diseased state of the ovaries. In general, however, the uterus seemed perfectly healthy, performing its functions well, and being quite free from pain when moved. I am disposed to think it a primary disease of the follicles of a part of the genital mucous membrane, just as distinct as acne or any other disease may be of the skin, and not as secondary to a more concealed and distant disorder.

The earliest symptoms of this follicular disease are leucorrhœa, with more or less irritation of the external genitals. These are particularly noticed after walking or standing. The leucorrhœal discharge then greatly increases, and from being thin and whitish it becomes yellow and thicker. It never assumes the viscid gluey character which marks the affections of the cervix of the womb, but it soils the linen with a yellowish tinge, sometimes having a darker colour from being mixed with a small quantity of blood, and occasionally smelling badly. That part of the mucous membrane which is affected becomes the seat of a most painful and almost incessant smarting, with every now and then a severe attack of pruritus. This itching, however, is not a uniform symptom, as some of the worst cases are unattended by it, and the sore and sensitive state of the vulva forbids any attempt at rubbing it. The patient sits down with pain, and adjusts her seat with care, first resting on one ischium, and then gradually sinking down on the chair. Sexual intercourse is painful from the first, but when the disease is established it is altogether abandoned, from the intense suffering it causes. Pain in passing water is a very rare symptom. Sometimes the little patch of inflamed membrane beneath the urethra may be touched by the urine as it flows, which occasions much pain at the time, but generally it escapes the stream of urine. The local symptoms are aggravated just before a menstrual period, and particularly by any mental depression, or unusual fatigue, in warm and wet weather, and by a constipated state of the bowels. In this as in most of the affections of the external organs of the female, much unhappiness is apt to spring up between husband and wife, which embitters the life of the woman, and greatly augments her sufferings. To the foregoing symptoms are now added habitual lumbar and sacral pains, heavy pains in the thighs and inguinal canals, with sometimes forcing pains when walking. The general health becomes impaired; the patient is timid, foreboding, and fretful: the digestive organs suffer; the appetite fails; the tongue is pale, flabby, and tremulous, and she is constantly nervous, hysterical, and weak. When the parts are separated in making an examination there is always much pain, the inflamed follicles, when even gently put on the stretch, sometimes bleeding a little. The orifice of the vagina is always closely contracted, and so shuts up the the canal that the leucorrhœal discharge accumulates within it, and when it does escape, flows profusely. The vagina and uterus are neither tender or hot, and when once the finger passes the closed sphincter, there is but little pain experienced in exploring these parts. A quantity of discharge usually follows when the finger is withdrawn. These are the prominent features of the disorder, and there is but little difficulty in recognising it if the parts are examined. The great practical error is to look upon the disease as an acute leucorrhœa, and the local pain, &c. as caused by the acrimony of the discharge. This disease differs from the diffused inflammation of the vulva in adults, by its attacking only a limited

portion of the mucous membrane of the vulva, in not being attended with general swelling, and in its obvious follicular origin. It differs from eczema. or herpes, or the aphthous state of the vulva, not only on these points, but in the absence of vesicles; and it differs from them all in its intractability.

I have every reason to believe that the cure of this affection will be found very troublesome, and second only to the prurigo which attacks women in the late periods of life. Appropriate remedies will succeed in greatly mitigating it, and allow of comparative comfort, but the mucous membrane does not clear, and the painful symptoms are re-established by any local irritation or derangement of the general health. I have tried perseveringly many remedies, and have found most of them of only very temporary service. At first I quite hoped to get rid of the disorder by the use of nitrate of silver, with attention to the general health, and an absence of sexual excitement. But after repeated trials of it, both in solution and in the stick, I have almost abandoned it. It causes extreme agony for some time, perhaps requiring the use of opium to allay it, and even the best effect of it is to relieve for a short space the tenderness of the parts. I have attempted to destroy the inflamed follicles by the free and repeated application of nitric acid with nitrate of silver, but without effect; after a monthly period they have again returned. The class of local remedies which does the most good is undoubtedly the sedative, and the most generally successful of these is hydrocyanic acid. It may be used either as a wash or as an ointment, but the latter, I think, is preferable. I have usually ordered two drachms of hydrocyanic acid with a scruple of the diacetate of lead, to be made into an ointment with cocoa-nut oil. The parts should be first bathed with some simple infusion of roses, and the ointment applied two or three times in the day on lint. It rarely fails to give much relief. Amongst the preparations of opium, a lotion of lime water with opium is perhaps the best. The poppy hip-bath has sometimes been very grateful to patients, and quieted irritation. A very useful application is to saturate some bread with a decoction of conium leaves, and to add two drachms of liq. plumb. diacet. to a pint of the decoction. A poultice thus made ought to be kept constantly applied to the vulva, and it will frequently assuage the smarting. Mercurial washes, although used with opium, have not in my hands been of much service. I have also tried solutions of sulphate of copper, zinc, and alum, and subborate of soda; but whilst they have varied the remedies, they have been sparingly successful. The latter has been much spoken of as a local application in diseases of the external organs, but I have generally been disappointed in it. Vapour baths may be prescribed with much advantage when the irritation is severe. I have tried both the simple vapour bath, and the sulphur baths, and with decided benefit. Creosote and the tar-water bath have failed with me in materially relieving this disorder.

But while it is necessary to multiply our resources to palliate the

distressing local symptoms, it is of the greatest importance to attend carefully to the general health. Any decline in health always affects the sufferings of the patient. The diet should be nutritious but unstimulating. Porter or wine should be avoided; and milk either alone or with lime-water may be taken with advantage. The patient should be desired to keep at rest as much as possible, as walking exercise always irritates the parts; and indeed it is often difficult even to mitigate the disease, if the person continues her ordinary duties, moving and walking about as usual. Sexual intercourse must be forbidden, although any injunction on this point is almost superfluous, as it rarely can be endured.

Change of air will do much to maintain the general health and diminish the constitutional irritability which appears in the course of this complaint. Vegetable tonics, as cascarilla, columba, sarsaparilla, &c., are of much use, with the tinctures of hop or conium. I have repeatedly prescribed, with much benefit, the mist. olibani of the Guy's Pharmacopœia, made with the dec. cinchonæ. The bowels ought always to be attended to, and there is no better plan than to combine a small dose of sulphate of magnesia with infusion of cascarilla or camomile. Saline laxatives are the most serviceable.

The plan of treatment which is here indicated will, I think, always afford great relief. The discharge diminishes, the pain and smarting of the vulva is appeased, and the general health improves; but it does not do more than this. The diseased follicles are still there, and any neglect of the prescribed precautions, or the coming on of any exciting cause, soon excites inflammation, with the attendant distressing symptoms. It only mitigates, but does not cure. When the health is recruited, however, by these means, I have in several instances, prescribed a mild mercurial course. This has usually consisted of the liq. hydrarg, bichlorid. ʒj. ex. dec. sarsæ. C. c. ext. sarsæ.; and while on the one hand I have never seen any injurious result from this mode of administering mercury, I have reason to be satisfied with its influence in checking, and sometimes eradicating, this complaint. It has, however, no specific power in curing the disease, for, in three cases where I have tried it, and at first thought it efficacious, the disease has re-appeared.

There is a resemblance between the follicular disease of the valve and the small vascular growths at the mouth of the urethra, in their tendency to return when apparently destroyed. In the first disease, unless the mucous membrane from whence they spring is cut off with the growth, it generally sprouts forth again; and in the more obstinate cases of the follicular disease it might perhaps be a good expedient to dissect off the affected portion of membrane. The cicatrix which it would leave in women who have not passed the child-bearing season, would be an objection to it; but in those cases which occur after the catemenial decline, it might, I think, be advantageously adopted.

Medical Gazette, May 15, 1846, *p.* 845.

186.—*On Chlorosis.*—By Sir H. Marsh, Bart., Dublin.—[Chlorosis in many points of its history remains to be explored and explained. We think the following views of Sir H. Marsh will interest our readers, although much of what is stated is not novel.]

There are many cases of chlorosis marked rather by an increase than a diminution of the total amount of the circulating fluid. In chlorosis there is a change in the quality, but not necessarily a change in the quantity, of the blood; so that chlorosis must be looked upon as a peculiar and distinct disease, and not identical with anæmia. In like manner hyperæmia is a convenient term to express a surplus of blood, generally or locally, but it is not expressive of any particular disease.

There is no proof of deficiency of blood in chlorosis; on the contrary, there is strong presumptive evidence that an actual excess of blood, though of inferior quality, characterizes some cases of the disease; and it is worthy of remark that, in the treatment of chlorosis, the moderate abstraction of blood by the lancet, by leeches, or by cupping, not only does not aggravate the symptoms, but, so far from this, when incidental affections demand depletion, is followed by the best effects. The disease in reality consists, not in a diminished quantity of blood. but in an altered quality—a diminished consistency of this fluid; herein lies its very essence, and any term which signifies the former, not the latter condition, is at least objectionable as applied to chlorosis. In chlorosis the blood undergoes a very remarkable change; its specific gravity is lowered; the clot is small and firm; the serum bears too large a proportion to the crassamentum; water is in excess; the red corpuscles are far below the healthy standard in quantity; their appearance, however, under the microscope, is natural; and the fibrin, in the majority of cases, is normal in quantity, firmness, and cohesive power.

In hæmorrhagic diseases, the chemical and physical characters of the blood are very different. Its specific gravity is seldom much below, and, occasionally, even exceeds the healthy standard; the separation into clot and serum is imperfect, and the clot bears too large a proportion to the serum; the quantity of fibrin is less than in healthy blood, or, at least, its proportion to the red corpuscles is less than is found in a state of health; the quantity of red corpuscles is either absolutely increased, or their proportion to the fibrin is larger than in healthy blood; and the quantity of solid constituents frequently exceeds that of the normal fluid. The clot is, in general, large, soft, and of a dark red, or almost black colour; sometimes the formation of a clot does not take place; a buffy coat is scarcely ever observed, except when fever or inflammation is present; and the serum is frequently tinged with red by the presence of red corpuscles in suspension. Under the microscope, the red corpuscles are most commonly seen of small size, with their edges lacerated and irregular; mingled with these are numerous shri-

velled, apparently empty, colourless cells, the walls of which are of extreme delicacy.

[The *essential* symptoms of chlorosis, then, are—1st. The depression of animal heat; 2nd. The prostration of the cerebral, nervous, muscular, cardiac, pulmonary, intestinal, and uterine functions; 3rd. The characteristic hue of the tegumentary membranes.

The supplementary symptoms, or complication of chlorosis, are considered in the following remarks:]

Of the complications, there are none more frequent, none more disturbing to the regular course of treatment, than the various neuralgic affections and local pains with which many chlorotic patients are afflicted. There is an intimate connexion between chlorosis and hysteria;—none are more disposed to become chlorotic than those who are hereditarily or constitutionally predisposed to hysteria. I have seen, during the progress of this affection every variety of hysteric symptoms arise; I have also seen it complicated with chorea. Nearly allied to hysteria, if not identical with it, are those spinal tendernesses and irritations which propagate pains to every part of the body. These neuralgic pains are oftentimes so severe that the lives of chlorotic patients are rendered miserable by them; and so harassing that every other feeling and consideration is absorbed in unceasing solicitude for their removal or mitigation.

Many individuals suffer from intense frontal headache, either constant or periodical, from acute pain in one or other of the sides, in the epigastric or hypochondriac regions, and sometimes even in the extremities. In such cases the treatment must be complex; yet whilst the leading object—the amelioration of the condition of the blood—should never be lost sight of, the means best calculated to mitigate and remove the neuralgic complication must not be omitted. In some cases, particularly those in which there exists in some part of the spinal column much pain on pressure, with strongly marked evidences of spinal irritation, it may be necessary to detract blood either by cupping or by leeches. Care, however, must be taken that the quantity of blood drawn should be small; leeches should not be too numerously applied, nor a prolonged bleeding from the bites encouraged. The operation of cupping has, in this respect, a great advantage, that there is no after bleeding, and when it can be quickly and dexterously performed it is a superior remedy. I have seen chlorotic patients permanently injured by profuse local bleeding. In general, the frequently repeated application of small blisters on either side of the spine is the preferable mode of treatment. In many cases of spinal irritation the pain and tenderness on pressure are found to exist, not along the line of the spinous processes, but on one or both sides of this line. Moderate pustulation is sometimes more effectual than blisters. For the removal of neuralgia, anodynes, particularly opium, should be sparingly and cautiously given. If it constipate the bowels and

diminish the secretions, temporary relief will be often purchased at a dear price. Opium, too, by prostrating the nervous energy, injures the respiratory fuection, and thus adds to the existing imperfection of the blood. It may be necessary to give an opiate—a night's unbroken rest may not be otherwise attainable; it should, however, be looked upon as a thing of necessity, and should, if possible, in chlorosis be avoided. I have occasionally observed marked advantage from small doses of aconite, and in one case of chlorosis with severe facial neuralgia, a great mitigation of pain was effected by a single dose of the canabis indica. All these potent agents, however, which lower the vital energies, are ill-suited to a disease, the characteristic of which is to depress, below the normal standard, every function necessary to the maintenance of life. They should be employed cautiously; and should not be long persevered in. The local application of anodynes and sedatives is oftentimes more safe, and in efficacy not inferior to their internal administration. Lint soaked in anodyne lotions, placed upon the painful parts, and overlaid with oiled silk, is in many instances a remedy of value: so likewise is their application over a blistered surface. the cuticle having been removed. The ointment of the sulphate of veratrine (a scruple to an ounce of axunge) I have found particularly efficacious. The neuralgic pain is sometimes, but not often, removed by lightly touching the adjacent skin with heated iron. In all these complications, the first object must be to improve the blood, the second, to remove the neuralgic pains.

Among the nervous disturbances to which the chlorotic state is liable, I am disposed to class a very remarkable symptom, one by no means uniformly present, but yet so frequent as to demand a distinct consideration. That to which I refer is the variety of abnormal sounds which accompany the action of the heart and arteries. These sounds vary: sometimes the systolic sound is a sudden, loud, sharp sound; at other times it is rough and harsh; sometimes it is best represented by the quick transit of a whip through the air; more frequently it is the bellows-sound or murmur which reaches the ear. This murmur is not confined to the heart; it extends along the arteries, and the transmission of the blood through the veins is not always effected silently, a peculiar and remarkable sound being heard in some of the larger venous trunks. These abnormal sounds are not the result of organic disease, but arise solely from disturbance of function. This is an interesting and important phenomenon; important, because it establishes the fact, that sounds so frequently characteristic of valvular disease, may and do originate in mere functional disturbance.

Would it not appear that these abnormal sounds are, in a considerable degree, dependent upon disturbance of the nervous function of the heart and arteries in excitable and hysteric constitutions? Doubtless the attenuation of the blood, both in chlorosis and profuse hæmorrhage, strongly predisposes to the production of these sounds;

but their immediate exciting cause is referable to nervous disturbances; so that, to give rise to this symptom, the contractions of the heart and arteries must, from causes connected with the nervous system, be imperfect and irregular. Hence the blood is propelled in broken streams, after the manner so faithfully described by Dr. Corrigan; and although an attenuated state of the blood renders this more likely to happen, yet that condition alone will not explain the phenomenon. In reference to the subsidence of morbid sound keeping pace with the improvement in the quality of the blood, it should be borne in mind, that the treatment which most effectually enriches the blood does also as effectually restore tone and healthy action to the nerves.

[Distention of the stomach after meals, from gastric and intestinal flatulence, is one of the most distressing of the incidental disturbances and perversions of the digestive functions. This pent-up gas is often the sole cause of the intense pains in the various parts of the chest, shoulders, sides, and along the limbs.]

These symptoms are greatly relieved by warm, cordial cathartics; by stimulating frictions and rubefacient applications, such as mustard or turpentine, over the abdomen; and by small, frequently repeated doses of the rectified spirit of turpentine internally. A drop or two of creosote, in a pill, to be taken thrice daily, is often exceedingly useful when given in conjunction with the compound galbanum pill. Galbanum itself, in full doses, is in some cases a most effective remedy. I have also seen marked advantage to arise from newly-burned and finely pulverised carbon; the charcoal derived from box-wood is, I think, the best; and the less the powdered charcoal is exposed to the air the more efficient it is. The following powder has proved itself, in many instances, a remedy of value: of freshly burned charcoal reduced to fine powder, a scruple; calcined magnesia, ten grains; powdered nutmeg, five grains. Mix. To be blended with a little milk first; then a sufficiency of water or milk added to suspend the powder, so that it may be easily taken. It may be repeated two or three times daily.

Treatment.—Do the resources of art furnish us with any substance, mineral or vegetable, capable of restoring to the blood its normal density, and its due proportion of red corpuscles? The answer to this question at once points to a mineral, the efficacy of which is as remarkable as that of any other medicine in the whole catalogue of remedies; neither do bark, nor mercury, nor wine, nor bleeding, nor opium, nor antimony, even when most judiciously administered, exhibit effects more manifestly therapeutic than iron does in this disease; nor does iron bring more of wealth to the inhabitants of the country from the bowels of whose earth this valuable ore is dug up, than it does of richness to the blood of the chlorotic patient. It is remarkable, too, how universally diffused are chalybeate springs, as if it were the design of nature that iron in abundance should be mingled with the blood, and that it should

be incorporated largely with vegetable matter. Whether the preparations of iron produce their effects directly by augmenting the proportion of red corpuscles in the blood, or indirectly by invigorating and improving the digestive function, still there is no medicine the curative properties of which are more fully established. The probability is, that it acts usefully in both ways. Iron, then, judiciously administered, is a most valuable and important therapeutic agent. Nor is its salutary action restricted to chlorosis; there are many other pathological conditions of the animal economy over which it possesses the same power in improving the blood, and thus restoring tone to the nerves and vigour to the muscles. Often in chlorotic patients have I watched the change wrought in the system from day to day under the vivifying influence of this remedy, and most striking, and sometimes rapid, have been its health-restoring effects. Were all cases of chlorosis simple and unmixed—were it not liable to the various complications to which we have already alluded, then, indeed, the treatment were easy, and the cure certain. But this is not always the case; various coexisting affections complicate the treatment, and even forbid for a time the employment of chalybeates; besides there are individual constitutions so intolerant of iron, so peculiarly affected by it, that we are compelled altogether to forego the administration of this useful remedy. We occasionally, also, meet with patients who cannot endure it, except in quantities too small to effect a cure; we are, in consequence, sometimes compelled by necessity to look around for a substitute, and the most efficient one which I have been enabled to discover is bismuth. Under the influence of this metal I have seen gradual and satisfactory recoveries take place in persons whose idiosyncracy forbade the use of iron. I must not omit to mention the marked utility of cinchona and its salts, and of the carbonate of ammonia. Many bitter vegetable tonics, also, are productive of benefit; but I place more reliance on bismuth, carbonate of ammonia, and the salts of Peruvian bark, than on any of the other substitutes for iron which are usually prescribed.

In both chlorosis and anæmia, I have observed that the treatment has been rendered more certainly and more speedily effective, by administering iron in conjunction with Peruvian bark and the salts derived from it. Hence arises the value of the triple salt just named; hence also the efficacy of the aromatic iron mixture, which, when united in equal proportions with Griffith's mixture, constitutes a very useful compound. I have often prescribed, and I think with excellent results, bark, iron, and ammonia conjointly in the following manner: — Decoction of Peruvian bark, ten drachms; tincture of bitter orange peel, one drachm; syrup of ginger, one drachm; bicarbonate of ammonia, fifteen grains—mix. To be taken two, three, or four times daily, in effervescence, with half an ounce of lemon juice. The compound iron pill, so prepared as to insure its solubility in the stomach, and repeated in sufficient doses three or four times daily, with the addition of about half a grain of

sulphate of quinine—which, though an unchemical formula, increases much the efficacy of the compound—forms one of the most generally and certainly effective modes of administering iron. In pill, it is less likely to produce headach than in solution; and for those who can with facility swallow pills, this mode of introducing iron into the system is at once more easy, and admits, without causing disgust, of being longer continued. The saccharine proto-carbonate, diffused in a vegetable bitter, is also an excellent chalybeate. In cases which require a mild aperient, in co-operation with the chalybeate, I have found the following powders particularly useful:—bicarbonate of soda, fifteen grains; tartaric acid, ten grains; dried sulphate of iron, from one to five grains; powdered white sugar, half a drachm. This powder should be kept in a dry place, dissolved in a wine-glassful of water, and swallowed whilst effervescing. These powders I have been in the habit of prescribing for the last ten years; they were first prepared for me by the late Mr. Fergusson, of Kildare-street.

[Do we possess any treatment capable of diminishing the amount of red corpuscles, when in excess, of equal efficacy with iron in augmenting their quantity when deficient? Obviously by bleeding, abstemiousness, and evacuations, the whole mass of blood may be attenuated and impoverished, or its entire constituents wasted. On this subject, connected with organic chemistry, Dr. Freke, clinical clerk at this hospital, makes the following remarks:]

Would it not, then, be of importance if any means could be suggested whereby the red globules alone might be diminished, while the other constituents of the blood remained unaffected? Could this be accomplished by the hydro-sulphuret of ammonia? He then proceeds to express his belief in the two-fold possibility that such end might be effected, and that the hydro-sulphuret of ammonia might be possessed of the power of depriving the red globules of an essential constituent, appropriating to itself a portion of that iron which would otherwise have contributed to the formation of the red globules. His grounds for such belief were, conjointly, the known affinity between iron and sulphur, the observed effects of hydro-sulphuret of ammonia on the economy, and the supposed function of iron in the globules. In the last number of the same periodical appeared an article, headed "Researches on the Human Blood," by M. Bonnet, of Lyons, the concluding paragraph of which is as follows:—"M. Bonnet, has further remarked, that the hydro-sulphuret of ammonia destroys the globules completely, and deprives the blood of the faculty of assuming the bright scarlet colour of arterialization." Thus the suggestion put forward by Dr. Freke, three years ago, has been in a measure confirmed by the recent researches of M. Bonnet. This important practical inquiry requires further investigation—it may lead to valuable results. Whether the hydro-sulphuret of ammonia acts primarily on the nervous system, as a sedative poison, or its direct effect be to de-

arterialize the blood, still, as a medicine, given in well-regulated doses, it may yet be found to possess curative properties.

In the second number of the *Dublin Medical Journal*, May, 1832, a case of disease of the heart was published, at my request, by my late friend, Dr. Newton, in which the hydro-sulphuret of ammonia having been administered, the heart's action was reduced to forty-eight in the minute, with an abatement of all the urgent symptoms. In other cases, too, the influence of this medicine upon the heart and pulse were very remarkable. I was led to adopt this practice by the accounts given of it by Dr. Rollo, in his work on diabetes. I may further observe, that I have been for many years in the habit of prescribing the hydro-sulphuret of lime in the treatment of diseases of the skin. I have employed it internally, in doses of from ten to thirty drops, sufficiently diluted; and externally, in the form of vapour, of lotion, and of liniment. I have reason to speak very favourably of its effects, more especially in those cases in which, from appearances at least, we should be induced to expect an excess of the red corpuscles. Might not its action be similar to that of the hydro-sulphuret of ammonia?—and might not this investigation, if fully carried out, throw a clearer light upon the manner in which the sulphureous waters of Lucan, Harrogate, Aix-la-Chapelle, &c., and the various preparations of sulphur, influence the animal economy. The inquiry is one of interest, and involves the consideration of the treatment of a large proportion of cutaneous affections.

Dublin Quarterly Journal of Medical Science, Nov., 1846, *p.* 303.

187.—*Tannate of Iron in the Treatment of Chlorosis.*—By M. Benedetti.

This substance, according to our author, excels all other medicines in the treatment of chlorosis. In evidence of this, he cites cases from his own, and from the practice of Majocchi, affirming that the treatment by the tannate of iron is successful in from twelve to twenty-five days, according to the severity of the case. It is to be administered in doses of from eight to thirty grains in the day. It acts more rapidly in persons of sanguine temperament. The mode of preparation, as described by M. V. Gaddi, is as follows:—A very pure sulphate of iron is made by the action of dilute sulphuric acid on iron filings; from this sulphate, by means of carbonate of soda, a carbonate of iron is precipitated, which is washed several times, and then dried on the stove. It is now pulverised, and thrown by small portions at a time into a boiling solution of very pure tannic acid in a porcelain vessel—the proportions used being very nearly five parts of the carbonate to one of the acid—or 440 parts of the carbonate to 90 of the tannic acid. The fluid is to be stirred constantly till the effervescence ceases. It is afterwards exposed to a heat equal to the boiling point of water, till it acquires the consistence of thick soup. It is then withdrawn from

the fire, and poured on porcelain plates, and dried with the assistance of heat. The tannate of iron thus obtained is of a crimson colour, insipid, insoluble, uncrystallized, though before being dried it appears in long needles. It may be administered either suspended in syrup, or still more conveniently in the form of pills.—*Bulletino delle Scienze Mediche.*

Monthly Journal of Medical Science, Nov. 1846, *p.* 370.

188.—*On the Use of Electricity and Galvanism in the Treatment of Amenorrhœa.*

The latest testimony on record of the medical efficacy of frictional electricity is to be found in a report of Dr. Golding Bird, who declares that scarcely any cases have been submitted to electrical treatment in which its sanatory influence has been so strongly marked as those in which the menstrual function was deficient. While chlorosis is present, scarcely any benefit is to be expected. The rule for insuring success, in the great mass of cases of amenorrhœa, is to improve the general health by exercise and tonics, and to remove accumulations in the bowels; a few electric shocks, often a single one, will then be sufficient to produce menstruation. The shock of a quart Leyden jar is to be passed from the pubes to the sacrum, as often as necessary, beginning about a week before the expected return of the menstrual discharge.

This effect of electricity, coming from the authority it does, is of great value, and will be appreciated by all who consider the intractable nature of the state of constitution which it is proposed to relieve, and which often baffles the skill of the most eminent. Electricity is, perhaps, the only real emmenagogue that exists.

Ordinary electricity possesses several advantages over galvanism; one is that of transmission with full effect through any required part of the body. Galvanism, it is true, can be transmitted, but in a comparatively imperfect manner; some portions of a limb are more sensitive to this influence than others; the former will experience severe shocks, when the latter will feel nothing: and if the power of the current be sufficient to effect the less sensitive parts, those that are more sensitive will be acted on with intolerable energy. But the discharge of a Leyden jar will take effect even on the smallest portion of the body. The advantage which ordinary electricity possesses of throwing a torrent of dense sparks, or the aura, upon any required surface is also very great, and cannot be derived from galvanism. On the other hand, galvanism has points of superiority over ordinary electricity, as will be presently seen. In fine, electricity can never be made to exert its full control over disease, unless by the judicious allotment of each of its forms to its legitimate function.

Dublin Quarterly Journal of Medical Science, Nov, 1846, *p.* 413.

189.—*Tincture of Water-Pepper in Amenorrhœa.*

Dr. Eberle states that he has found no remedy so effectual in the cure of amenorrhœa as the tincture of water-pepper. Dr. T. L. Ogier, in a paper in the Southern Journal of Medicine and Pharmacy, May, 1846, also extols it as the most certain of our emmenagogues, and relates four cases successfully treated by it. He says that he knows no medicine that has a more decided action on the uterus in producing the menstrual discharge. The preparation used by Dr. O. was a strong tincture made from the stem, leaves, and flowers; but he thinks that the active principle of the plant resides chiefly in the leaves. The dose was a teaspoonful of the tincture three times a day in a little sweetened water.—*The American Journal of the Medical Sciences.* July, 1846.

The water-pepper of Europe is the Polygonum Hydropiper—that of America, though not the same species, is closely allied to it, and probably both possess the same medicinal properties. The American water-pepper is referred to the Polygonum hydropiperoides, or the the Polygonum punctatum. Though the European water-pepper is at present obsolete in medicine, it seems not unlikely that it might be applied with advantage to some purposes in practice. Merat says, "it is a plant to experiment on, to analyse, and which promises advantageous results in therapeutics." It has the reputation of being a diuretic.

Monthly Journal of Medical Science, Nov. 1846, *p.* 371.

190.—*On the Use of the Cold Hip Bath in Irregular Menstruation.* —By Dr. Chmelik.

"Cold water," says our author, "exerts a double influence on the female genital organs, the one a strengthening or contracting (*zusammenziehende*) influence, and the latter, an attracting (*zuleitende*) force; this, by a prolonging action upon the genitals, attracts to them the warmth, and excites the organs to greater activity to restore their lost heat, and hence causes congestion of the parts." The author then brought his theory to the test of practice, and was successful in many cases of amenorrhœa, where the means ordinarily employed had proved unavailing. He commenced first with the tepid, and then with the cold bath, twice daily, morning and evening, continued for half an hour each time. Generally after the use of the bath for eight days, the patient perceived a feeling of heat in the hypogastric region, and a dragging sensation in one or both inguinal regions; sometimes slight diarrhœa supervened. and in one case where menstruation had been suppressed for a year and a half, considerable swelling and inflammation of the external genitals came on. In all cases after the bath had been in use for four or five weeks, menstruation returned without the employment of any other remedial measures, and in most of the cases the catamenia had been suppressed for half a year or longer. The most stubborn cases which the author met with were those of young

girls who had never menstruated, but in whom there were symptoms indicating deranged health, in consequence of the non-appearance of the discharge. These, however, also got well after using the bath for some months: but the author candidly admits that he had not many of this latter class under his observation. The author further points out the harmlessness of this remedy, in cases where suppressed menstruation arises from concealed pregnancy; he had one case of this kind under his care, and although the patient used the cold bath, as above prescribed, for a considerable period, she went on to the full time and was safely delivered.—*Oesterreich Med. Wochensch.*

Monthly Journal of Medical Science, Sept. 1846, *p.* 232.

191.— *Ovarian Disease.*—By S. Solly, Esq., F.R.S., &c., St Thomas's Hospital.—[A case of ovarian disease is mentioned by Mr. Solly in a clinical lecture. The patient was an inmate of the Stoke Newington Asylum for females; she was 24 years of age. Her abdomen was much swollen and rounded, giving a distinct sense of fluctuation. There was no evidence of disease in the liver, kidneys, or heart. Mr. Solly considered it a fit case for operation, and had her removed to St. Thomas's hospital, in order to have a consultation with his colleagues, who agreed with him as to the propriety of the step. Mr. Solly observes:]

The temperature of the room was raised to 78°. My patient was placed on a chair without arms, with a back inclining nearly on a level with the seat. She was supported by pillows in a semi-recumbent posture, but the angle of the back was such as to enable me to allow her to lie down immediately by the abstraction of the pillows, if syncope should supervene during the operation.

At a quarter-past twelve I went into the room, accompanied by Drs. Leeson, Cape, Bennet, and Cohen; and Surgeons Green, South, Mackmurdo, Travers, Clark, and Grainger; and my two dressers, Messrs. Tarswell and Eddowes.

I commenced the operation immediately by making an incision through the adipose tissue, which was about one-seventh of an inch in thickness, down to the linea alba. This incision was three inches in length; commenced about one inch from the umbilicus. I applied cold sponges to this incision, and as soon as they had arrested the hæmorrhage, which was very slight, I divided the linea alba very carefully without dividing the peritoneum. I next divided the peritoneum, and this exposed the sac, which was bright, smooth, and healthy. It moved up and down freely with the motion of the diaphragm; the peritoneum was most carefully divided to the same extent as the linea alba by means of a more pointed bistoury.

I laid hold of the sac with three-prong or bull-dog forceps, and then gave them to Dr. Cape. I next pushed in a trocar and canula, and thus drew off 17 pints of straw-coloured fluid.

As the sac became emptied I slowly drew it out of the abdomen;

it followed easily, for there was not one adhesion. This enabled me to see the peduncle, which was evidently the broad ligament of the uterus, quite healthy, and of natural thickness.

About midway through the uterus and the tumor, I passed a large curved needle through the peduncle, armed with ligature, which Mr. Lane recommended to me as being more tenacious than ordinary silk, and not so likely to slip. I had previously tried its strength, but neither could I nor Mr. Gard, our surgery-man, break it by any force we could put upon it; but it now unfortunately gave way, and I was only able to use it to draw through a stronger ligature, similar to that used by Mr. Walne.

Having separated my two ligatures I tied each separately in the surgical knot, exerting all the force in my power to tie them as tight as possible. I paid great attention to this point, as I had been informed by Mr. Phillips that in one of his cases the ligature had not been sufficiently secure. This part of the operation, and the drawing the peduncle out of the abdomen, appeared to give her severe pain. I then divided the pedunele so close to the sac that at one point I left a small piece of it. One half of each ligature was divided near to the knot; the cut surfaces were now carefully examined by Dr. Cape, and those immediately about me, and as there was not the slightest oozing from them the pedunele was returned within the abdomen, and the ligatures retained. A very small portion of omentum escaped from the wound, but as it was quite healthy and uninjured I returned that also. During the operation she complained occasionally of feeling faint, but by sponging the face with vinegar and water, and applying ammonia to the nostrils, complete syncope was prevented. I brought the edges of the wound together with three interrupted sutures, and applied three broad strips of plaster covering the whole with a nine-tailed bandage.

The whole operation, including the time occupied by the evacuation of the fluid, lasted half an hour. I then carried her to bed, and though she had not lost more than two drachms of blood during the operation, she was pale, low, and depressed; pulse 80, and feeble. Temperature of room 76°. A few minutes after lying down she vomited a small quantity of mucus, and complained of great pain in the abdomen; sixty minims of tinct. opii were immediately administered; shortly after she again vomited, but did not apparently return much of the laudanum. From this time the pain rather increased in the lower part of the abdomen, and as the vomiting still continued, two grains of morphia were put up the rectum by Dr. Cape's advice.

At two o'clock, the pain not being at all relieved, poppy fomentations were applied over the abdomen.

Within five minutes of this application she expressed herself much more free from pain, and continued comparatively comfortable till five o'clock; but during this period her pulse gradually became more feeble.

[At nine o'clock she was becoming very feeble, the pulse could scarcely be felt. About half-past eleven o'clock, it was observed that blood was flowing through the plasters; Mr. Solly immediately removed them, cut through the sutures, and passing his hand into the pelvis, seized the peduncle of the sac, around which a ligature was passed. This was soon accomplished, but within ten minutes after it was finished, syncope came on, from which she never rallied. On post-mortem examination, it was found that the lower division of the ligature included the inferior part of the broad ligament; the ligament of the ovary had escaped from the ligature, and its cut surface was free in the abdomen, on which an artery large enough to admit a probe opened. This part it was evident had escaped from the ligature after the peduncle had been cut away. There was about one pound of coagulated blood in the pelvis. Mr. Solly adds:]

With reference to the explanation above given of the facts of this case, it must be observed, that the part which is supposed to have retracted and escaped from the ligature is precisely that part which must have been considerably on the stretch, when the cyst was pulled from the wound in the abdominal wall, in order to put on the ligature and divide the peduncle. This part (particularly the ligament of the ovary) is very extensible and elastic, and probably was much elongated by the traction exerted upon it before its division; it was then included in the same ligature with the fallopian tube, which was little if at all stretched, by drawing the cyst from the abdomen. After being divided, the extended part retracted and escaped from the ligature; after retraction it was, of course, shorter and thicker than it was while stretched and included in the ligature; and this change of shape and size sufficiently explains the absence of any mark which the ligature may have made upon it, as well as the apparent disproportion between the thickness of the part, which is supposed to have escaped from the ligature from which the escape took place.

The ovary on the left side had precisely the same relations and connections as the cyst had on the right side. This is clearly seen in the preparation of the parts. A moderate amount of traction on this ovary after death was found sufficient to double the length of the ligament of the ovary, and of course to diminish its thickness in the same proportion. When the traction was discontinued the elasticity of the parts at once restored the original length and thickness.

I am inclined to believe that the ligature must have slipped just two hours after the operation, when the fomentations were first employed, and the pain suddenly ceased, and she became more faint.

But the most important and interesting question to us all is, how are we to prevent so sad an occurrence? One plan which has been suggested is, that after tying the ligature the needle should be again

run through the peduncle so as to stitch it in its place. The objection to the proceeding is, that it might delay its ultimate removal.

In one of Mr. Lizar's operations the ligature did not come away till the seventy-sixth day. I believe the better plan is that which, I understand, is now adopted by Dr. Frederick Bird. I understand that this excellent operator does not include in his ligature the fallopian tube, and only that portion of the peduncle which appears to contain vessels, tying any others separately that may require it. I have just learnt from Mr. Lee, who has obtained the Jacksonian Prize for this subject, that the number of cases which have now been operated upon amount to 103, and that the success is in the proportion of one to three and a half; but the success which has attended Dr. Frederick Bird is most satisfactory and highly important. In a letter which I received from him a few days ago he thus expresses it:

"The operations occurring to myself include cases of unilocular, multilocular, and colloid forms of ovarian disease; in the majority of these, adhesions existed over the anterior surface of the tumor, and in these instances the base of the cyst adhered firmly to the pelvic organs. In no case has a fatal termination resulted; the return to health has been rapid and complete.

In not more than one case have inflammatory symptoms arisen, and then scarcely assumed an acute or dangerous type. I have always relied uponprophylactic rather than remedial means, and I believe if this point were more generally insisted upon there would be little wanting to render the excision of diseased ovaria in proper cases one of the most successful operations in obstetric practice.

The ages of the patients have ranged between eighteen and twenty-two, thirty-five and forty-five, one only having been above fifty years of age."

I should not, however, be doing justice to this operator, if I did not advert to the pains which he takes, and the attention which he pays to his patients after the operation. There are many men, who after having performed it skilfully and successfully, have not the patience to attend to all those minor details on which the success of the operation appears mainly to depend.

Medical Gazette, July 10, 1846, *p.* 55.

192.—*New Operation for Ovarian Dropsy.*—By Professor Kiwisch.

The mode of operating will be best explained by quoting one of the author's cases. A peasant, æt. thirty, the mother of four children, of which the youngest was only a year old, was received into the hospital at Prague, on account of obstinate ischuria and constipation. The cause of these affections was found to be a tumor, the size of a head, lying between the rectum and the vagina. By careful examination the operator was satisfied that

this tumor was not formed by the uterus, but by an enlarged ovary containing fluid. With a curved trocar a puncture was made in it, through the vaginal parietes. Through this about nine pounds of a chocolate-coloured fluid was drawn off, upon which the sac completely collapsed, and the uterus, which had been pushed high upwards and forwards on the brim of the pelvis, returned to its natural situation. The canula was left for thirty hours in the wound, to permit all the fluid to drain off. In ten days it was necessary to repeat the operation, and on this occasion the opening made by the trocar was so far dilated with a bistoury that a finger could be introduced into the sac; several pounds of fœtid bloody pus and numerous flakes of lymph were removed. Water was injected into the sac with considerable force, and in order to keep the opening pervious, a thick curved uterine tube of tin was introduced into it, and fastened in front of the external genitals. During the ten days following the operation there was considerable fever and a good deal of fœtid discharge; but at the end of a fortnight the discharge improved in quality, and diminished in quantity; the tube was then removed for some hours daily, so that the patient was permitted to take some exercise, and from this time she gradually recovered. In four weeks the wound had contracted so much that the tube could not be again introduced; and in about six weeks from the date of the second operation, the patient was dismissed cured. A year after this the author again saw the patient; she was then in perfect health; the uterus was in its normal condition and situation, and behind it the remains of the sac could be felt as a small hard and easily mobile body, causing not the slightest inconvenience.

The author states that the following conditions are necessary to ensure success:—1st. That there be no other complication, and that the tumor be unilocular; this is to be proved by its being entirely emptied by an exploratory puncture with a trocar. 2nd. That the cyst contain not more than fifteen pounds of fluid. 3rd. That the opening made be large enough to permit the easy introduction of the finger. 4th. That the injections of water be of such a temperature as shall be agreeable to the patient, and that they be thrown deep into the sac. 5. That the tube introduced into the opening be withdrawn at intervals, and that its use be not entirely laid aside until the opening has become contracted, and the discharge has become solely purulent; if the opening contracts prior to this, it must be again enlarged with the knife.

Three other patients on whom the author operated, died from the effects either of the operation, or the previous disease. Of twenty-five cases which had been under his care, three only were radically cured.—*Prager vierteljahrig für Heilk.* 1846.

Monthly Journal of Medical Science, Sept, 1846, *p.* 230.

193.—*Neuralgia of the Uterus arising from Dentition.*—By R. Davis, Esq., London.—[Mr. Davis records, in the *Lancet* of Aug. 1st, 1846, the case of a lady, who, six days after labour, was attacked with severe pain in the region of the uterus. It was of an intermittent character, and during the intermissions she had pain in the face. Leeches, fomentations, &c., were applied to the abdomen, and calomel and opium given internally. He remarks:]

The pain in the face now became more severe, and the patient, supposing it to arise from toothach, surrounded the parts with flannel. This circumstance led to inquiries on my part, which ended in an examination of the mouth, when I found the posterior part of the gum enlarged, red, and swollen. The mystery was explained. One of the dentes sapientiæ, the cause of all the pain in the uterus, was coming up; the gum was freely lanced, and the pain in the uterus from that moment subsided. No more medicine was required nor given.

Lancet, Aug. 1, 1846, *p.* 125.

194.—*Adventitious Nipples during Lactation.*

[The following case of supernumerary mammæ, is communicated to the *Lancet*, by Dr. Ashley.]

Mrs. F., residing in this neighbourhood, immediately after her first accouchement, experienced in both axillæ, for the first time, a peculiar sensation, which was accompanied by the growth of a tumor. It was ascertained, on examination, that a swelling of the size of a common fowl's egg had appeared under each axilla; a small nipple was also observed on the summit. These abnormal growths sometimes increase much in size, but after suckling they gradually decrease, until they become no longer apparent. The same peculiarities have occurred after each accouchement, excepting, that since the birth of the third child, a jet of milk has occasionally issued from the abnormal nipples during suckling.

The natural mammæ are somewhat affected by these adventitious forms, they are scarcely so large as is usual in healthy females of the same age, and the secretion of milk is not so plentiful.

Mrs. F. is the mother of five children, and apparently free from all other irregularities of formation.

Lancet, Aug. 22, 1846, *p.* 227.

VARIOUS SUBJECTS.

195.—ULCERS: TREATMENT OF BY TURPENTINE INTERNALLY, WITH REMARKS ON THE OPERATION OF THE REMEDY.

[It appears that Mr. Hancock has been desirous of trying the suggestion of Heister in his work on Surgery, who mentions the "known" virtues of tinctures or balsamic essences for promoting the secretion of urine, and very properly prescribed in the case of ulcers. But he also adds that his attention was directed to it by Mr. Fayrer, who had witnessed the success of Dr. King's practice of Haslar Hospital, who first had the credit of introducing it; but, like a wise tactician, who wishes to do credit to his resources, Mr. Hancock says:]

I do not mean to assert that turpentine is a specific in the cure of ulcers; on the contrary, we have seen, that, in some forms, as in the case of Anne P——, its exhibition was decidedly injurious: but in order to simplify my description and save your time, I will adopt the arrangement of Sir E. Home, and classify them under three heads—those which are prevented healing by excess of action, those by deficient action, and those by specific action.

It is in the second of these classes that I have found turpentine of so much value: where the wound is sluggish; where the surface of the sore is smooth, without granulation, or of a greenish, foul appearance; where the discharge is serous, and the edges of the sore rounded, smooth, and callous; and where the surrounding skin is of a pink or blue colour—in fact, in that form of disease constituting by far the largest proportion of ulcers which fall under our observation.

From the cases which I have narrated to you, as well as from others in which I have employed this remedy, at this time amounting to above one hundred in number, I am convinced that it should not be exhibited where the patient is plethoric, or where the wound is complicated with much acute action in the surrounding parts, or where the pulse is fuller and more frequent than natural; as when this condition prevails, I have invariably found the patients do badly under its administration, in some instances suffering from

restlessness, severe headach, and nausea, and in all from unhealthy action in the wound itself. Where, however, the condition of the patient is opposed to this—where the circulation is languid—where the constitutional powers are from any cause depressed,—the turpentine, administered as in the cases to which I have alluded, will be found a most efficient remedy, producing healthy granulation in chronic indolent sores, and promoting reparative action in the part.

The good effects upon these wounds will usually be apparent in one or two days; the ulcers change in character, their surfaces becoming covered by small regular granulations, secreting healthy thick pus, whilst the surrounding skin gradually returns to its healthy condition; and this improvement in the appearance of the parts is usually accompanied by subsidence of pain. Some of the patients have informed me, that shortly after taking the medicine they have experienced a considerable degree of smarting in the wound, lasting for about an hour, after which they remained perfectly easy until they repeated the dose.

In some few instances patients have objected to the remedy on account of its unpleasant taste, some alleging that it made them feel tipsy, or gave them the headach; others, that it created nausea; but in general, the beneficial effects have been so evident, even to the patients themselves, that I have not had any difficulty in persuading them to continue its use. When, however, I have been certain of its producing nausea, or any of these unfavourable symptoms, I have either discontinued its use altogether, or substituted the oil of cajeput in doses of three drops, three times daily, with very good effect. But these objections can now be obviated by administering the turpentine capsules, made by Messrs. Evans and Lescher, each capsule containing from twenty to twenty-five drops of the turpentine. The capsule is made of membrane or bladder, which, from its yielding nature, is much more easily swallowed by the patient than the gelatine capsule originally introduced.

Now, as the last modus operandi of turpentine in producing these results, Dr. Pereira has observed, that in small doses of from six to eight drops to one drachm, it creates a sensation of warmth in the stomach and bowels, becomes absorbed, circulates with the blood, and in this way affects the capillary vessels, being thrown out of the system by the different excretory vessels on the secerning vessels of which it acts in its passage through them.

When the turpentine has been administered for a day or two, we find a healthy action ensue, granulations spring up, there is a healthy secretion of pus, and without the urine is loaded with an excess of animal extractives, this cannot be the result of a subsidence of inflammatory action, and a concomitant absorption and exudation of the blood plasma. But may we not more fairly conclude that the turpentine in these doses acts as a healthy stimulus to the digestive organs, producing a more complete assimilation of the food, and that, consequently, the patients are better nour-

ished? We may, in this way, account for the increased quantity of animal matter discovered in their urine.

Lancet, Oct. 3, 1846, *p.* 366.

196.—*The Application of Prismatic Reflection to the Investigation of Disease in the Open Cavities of the Body.*—By Dr. A. Warden.—[Dr. Warden has invented an ingenious modification of the speculum, for examining the condition of the external meatus and other passages; he has invented certain descriptions of instruments which by an adaptation of a reflecting prism and tube, the condition of an internal surface may be ascertained. In Retrospect, vol. xiii., we referred to some of his instruments.]

He remarks, that the operation of breaking down the stone in the bladder is conducted through the medium of a straight tube one-third of an inch in calibre. Through canulæ of narrower dimensions, and twelve inches long, he can recognise, with the aid of the prism, the precise condition and aspect of the surface presented at the further extremity of the instrument, or over which it may traverse; and, what is of more every-day importance and easier range, he has submitted to ocular inspection stricture in the urethra. He has marked the puckering of the mucous membrane at the strictured part, observing the passage itself to be contracted so as to admit little more than a bristle; and that the diseased structure had not only the solidity discoverable by the bougie, but the varied characters demanding a severe and immediate, or a palliative and temporising treatment. He also conceives that important service may be derivable from the prism and canula in the unforeseen difficulties in the extraction of the stone, which occasionally occur in the operation of lithotomy; likewise, in the exploration of gun-shot and other wounds, where foreign bodies lodge and require to be extracted. It may be anticipated, he thinks, that in some cases of preternatural labour, also in fixing ligatures on polypi of the uterus, and in many of the most prevalent diseases of females, the principle of prismatic illumination is fitted to extend our acquaintance with the precise characters of those morbid affections whose treatment is unsuccessful only because our knowledge is inexact, or altogether deficient. In the case of the nasal passages, Dr. Warden considers that ozœna and other forms of ulcer, as well as early stages of polypus, might be thereby recognised, and more certainly treated or eradicated; also light may be (literally) thrown upon the forms of deafness connected with the eustachian tube.

He further mentions, that he has proved, on the dead subject, the practicability of passing a straight tube, of half an inch calibre, and two feet in length, by the mouth into the stomach, without leaving any mark of abrasion or injury of the soft parts in its passage. He admits that the importance of such a reach of ocular observation is not, at present, very obvious; but through a tube of

the size described, he is persuaded that he could depend somewhat on throwing light, by means of the prism, upon the character of a diseased surface presented at its further extremity, or over which it might traverse; and, in proportion as its length was diminished, so as to bring the object nearer to accurate vision, as would be the case in stricture and other affections of the gullet, the view and indications will be proportionally clear.

Referring to the adroitness with which conjurors appear to pass straight instruments from the mouth into the gullet, he mentions that Mr. Anderson, the Wizard of the North, has engaged to put him in communication with several persons whom he knows *bonâ fide* to have performed this feat a hundred times, and he watches to avail himself of such an opportunity for testing the instruments, divested of the agitation of a patient under any real emergency; a good illustration of the principle that a really philosophical inquirer will never disdain means, however humble, that may tend to elucidate the problems upon which he labours.

Medical Gazette, July 24, 1846, *p.* 165.

Mr. Avery, surgeon to the Charing-cross hospital, has lately gained the prize from the Society of Arts, for his ingenious method of inspecting certain internal passages of the human body, by reflecting a powerful and concentrated light through highly polished metallic tubes. By this valuable discovery we are enabled to examine the rectum as well as the vagina, to see well into the larynx as far as the cordæ vocales, and several inches down the urethra, so as clearly to distinguish the narrow aperture of a stricture at a considerable depth from the orifice. These inventions are not only ingenious, but will not fail to prove of great practical utility to the surgeon, and must confer lasting honour on the gentleman who has brought them to their present degree of perfection and efficiency.

Provincial Medical and Surgical Journal, Aug. 12, 1846, *p.* 379.

197.—*New Remedy for Toothache.*—[Sulphuric æther, saturated in the cold with camphor, and then a few drops of liq. ammoniæ added.

It acts as a cautery. M. Cottereau, who has employed it for four years, says it is always attended with success. The rapid evaporation of the æther causes a slight deposit of camphor in the dental cavity, and this protects the nerve from the air. The ammonia cauterises.]

Medical Gazette, Oct. 23, 1846, *p.* 728.

198.—*Mineral Poisons.*—[MM. Sandras and Bouchardat recommend as an universal antidote for the mineral poisons, the persulphuret of iron in such quantities as to be always in excess in the intestines, to prevent the reabsorption of the poisonous matter

They administer first a purgative, and order a soap-bath, then give the patient a mixture of syrup and persulphuret of iron night and morning. Opium, strychnia, or belladonna may be employed at the same time.

Two cases only proved fatal out of 122 with lead colic thus treated, and the others were rapidly cured.]

Medical Gazette, Oct. 23, 1846, *p.* 728.

199.—*On the Results of Drinking.*—By W. Ormerod, Esq.

Of all diseases of internal organs produced by drinking, the granular liver seems to have attracted most attention; perhaps justly; but there is no doubt, that of all organic diseases, the two most to be feared in intemperate persons with recent surgical injuries, are the granular kidney, and slight, but general emphysema, with a dilated, but not always much diseased heart; and in persons past the middle of life, dying rapidly in hospitals after operations and surgical injuries, combined with much loss of blood, these two affections of the urinary and respiratory organs are very far from uncommon.

The three chief affections destroying patients after operations and injuries,—namely, the general habit produced by drinking; secondly, organic disease of the lungs and kidneys, especially emphysema in the former, and granular disease in the latter; and, thirdly, tubercle,—act very differently, and at different periods. During the early period, and often for weeks after operations, patients labouring under tubercular disease do well; and it is often only at the absolute return to health, rather than during the recovery of the patient from the operation itself, that the effects of tubercle begin to show themselves. Organic disease produced by drunkenness, and habitual drunkenness, act differently; the organic disease presses heavily at every period, and may destroy life early or late; but the mere habits of the drunkard show themselves chiefly at a very early period. The patient who nearly sinks from his unsound organs within the first few days, often lags on for weeks and months in danger; but the man who has simple delirium tremens is taken ill directly, and often dies; but if he recovers from his delirium, he generally gets well from the operation, and sometimes quickly.

*Lancet, Oct.*17, 1846, *p.* 430.

200.—*New Mode of Preparing Adhesive and Strengthening Plasters of India-Rubber.*

The articles we employ in the preparation of the plasters, are those known in commerce as caoutchouc, or India-rubber pine gum, (obtained from the southern yellow pine, commonly termed "long-leafed" pine,) cayenne pepper, balsam of Peru, litharge, and spirits of turpentine.

The proportions are five pounds of India-rubber, reduced to fine shreds, steeped in soft water for softening it, then put, with sufficient quantity of spirits of turpentine to cover the India-rubber, in a vessel; the quantity to be increased as the gum absorbs it up. When the rubber is sufficiently dissolved, it is to be pressed through a fine sieve. Four ounces of capsicum annuum, or cayenne pepper, are heated in a quart of spirits of turpentine. A portion of this tincture is ground with a pound of litharge and then mixed with the remnant of the tincture, and to it is added six ounces of the balsam of Peru. Then melt a pound of pine gum, and add spirits of turpentine until it is thin enough to strain, and finally, all the preceding are mixed together.—*Chemist.*

Lancet, July 11, 1846, *p.* 49.

201.—*On the Means of Preventing Bed Sores.*—The thicker the cuticle, the more it will protect the parts beneath; you may, if you attend to it in time, add to the thickness of the cuticle by stimulating the surface of the skin. Nurses know this very well, for when patients are bed-ridden, they wash the parts subjected to pressure, with brandy. What is still better is a lotion composed of two grains of bichloride of mercury to an ounce of proof spirits. When you think that a patient is likely to be confined so long in bed that sloughs may be found on the os sacrum, begin at an early period to wash the parts two or three times a-day with this lotion. I have found it useful in other cases where a patient suffers from pressure. For example, in a case of hernia, which requires to be supported by a very powerful truss, the truss galls and frets the skin, and may at last cause inflammation and sloughing; but, under the use of a stimulating lotion, a thicker cuticle is generated, and such mischief is avoided.—*Sir B. Brodie's Lectures on Pathology and Surgery.*

Medical Gazette, June 5, 1846, *p.* 992.

A SYNOPSIS,

CONTAINING

A SHORT ABSTRACT OF THE MOST PRACTICAL ARTICLES IN THE FOREGOING PAGES OF THIS VOLUME; AND SHOWING, AT A GLANCE, THE MOST IMPORTANT INDICATIONS OF TREATMENT BY DIFFERENT WRITERS, PUBLISHED WITHIN THE LAST HALF-YEAR.

DISEASES AFFECTING THE SYSTEM GENERALLY.

FEVERS.—*Typhus.*—Besides light, ventilation, and good air, shave the head; apply four or six leeches to the temples, which will not be contra-indicated even with general debility, requiring the exhibition of wine; do not apply intense cold. If insomnia persist, this local depletion acts, as in some forms of ophthalmia, by relieving the distended capillaries, while tonics, at the same time, give them and the general circulation, strength. If you decide on applying cold instead of ice, take a single fold of linen, dipped in cold lotion. Do not continue the use of opium unless it procure sleep, or it will act injuriously upon the nutritive functions, both secretion and excretion. If the tongue be moist, and urine abundant, give opium if required, but if it become dry and brown in the centre, urine high-coloured and scanty, and the nutritive and secreting functions be deranged, opium will act as a poison, and mask your diagnosis. Hyosciamus, as it does not interfere with these functions, will be more advisable. In the coma, without strong vascular action, use blisters rather than persist in bleeding; the blistering plaster may be cut in strips of an inch wide and applied, from ear to ear. Counter-irritation, also, by means of croton oil and ung. hydrarg. mixed, may be used. Look well to the bladder; do not trust to nurses, and, when necessary, introduce the catheter. Mark well the crisis, as shewn by the secretion of urate of ammonia, or urea, or by long sleep and perspiration; where the latter is too profuse, about the sixteenth or seventeenth day, there is much risk. In common inflammatory fever, it is advantageous

about the second or third day, but in typhus it depresses the system to extreme exhaustion. (Dr. Corrigan, p. 1.)

Diarrhœa should not be stopped too soon. Let the bowels be well cleansed. Give a little magnesia or lime water, or, after repeated dejections, the cretaceous remedies, with opium. If too violent, stop it by calomel and opium; a grain, half, or quarter doses may be given at intervals, according to circumstances. If there be attendant tenesmus or dysentery, give an opium enema; and in the worst cases it may be composed of three or four grains of acet. of lead, and a half or one grain of acet. of morphia, with an ounce and a half of aq. distilata. For the typhoid fever after diarrhœa, the best treatment is the expectant. Allow plenty of fresh air, and cool, simple diluents to drink. Change the bed linen frequently, and often sponge or dowse the skin all over with cold water, if practicable. Consider it a rule, that what is agreeable to the patient is useful, and allow him in reason what he likes. If head symptoms be present, use the cold douche: wrap the patient up to his neck in a blanket, and pour three or four pitchers-full of water from a height of a few feet upon the head three or four times a-day. Apply counter-irritants to the neck, or behind the ears, in extreme cases. Arrest any irritation of the bowels which proves debilitating, with the cretaceous mixture, ℥j., every three or four hours. Where there is aphthæ, wash the affected partswith a lotion, composed of two grains of the nitrate of silver, a few drops of nitric acid, and eight ounces of distilled water. For the diarrhœa which supervenes, give small doses of sulphate of quinine, sulphuric acid, and one-sixth gr. doses of sulph. copper, dissolved in any suitable vehicle; or acetate of lead combined with opium, or acetate of morphia in pills, made with bread-crumb. These also may be administered in enemata. (Dr. Laycock, p. 13.)

Iron in fever may be given in form of mist. ferri. c., made with the sesqui-carbonate of ammonia instead of carbonate of potash, in cases of urgent debility, as soon as gastric disturbance will admit, and where an adynamic condition of constitution and sinking of the vital power is threatened, which is evinced by a dull or dusky colour of the eruption, and a cool state of skin. The iron may also be combined with the valerian. If coma supervene, turpentine internally, or by enema. as recommended by Dr. Copland, is valuable. Symptoms of inflammatory fever contra-indicate the use of iron. (Mr. Tuckwell, p. 22.)

Scrofula.—Iodide of iron in syrup, four grs. in twenty-four hours, continued not longer than a fortnight or three weeks at a time. then give aperients, and resume the iodine. The hydriodate of potash may be given more freely. Chloride of barium is very useful in cases of tallow-like complexions, pale tongue, and languid circulation, with irritability of the mucous surfaces. Make

a solution of one gr. to ℥j. distilled water, and ten drops of tinct. gent. e., then take half oz. twice a day, and increase the dose if necessary to three grains daily.

Hydrochlorate of lime, ʒi. to ʒxx. aq. dist., and give a teaspoonful in milk two or three times a day. The dose may be increased to two teaspoonfuls. It, as well as the alkalies and burnt sponge, is of doubtful value.

Cod liver oil is useful by improving digestion and nutrition, rather than by the specific value of the iodine or bromine it may contain. (Mr. Philips, p. 130.)

In scrofulous abscesses, white swelling, chronic eczema, goitre, ulcerated ganglia, herpes, lichen, ulcerated lupus, maculæ, ophthalmia (chronic) complicated with ulcerating keratitis, have received much benefit by treatment with the new triple compound of chlorine, iodine, and mercury, "Iodhydrargirite de chlorure mercureux." (M. Rochard, p. 134.)

Gout.—Mr. Donovan strongly recommends Sir Everard Home's formula for the procuration of the most active and best effects of the powers of colchicum. He directs two pounds of recent bulbs to be macerated with twenty-four ounces of sherry wine in a gentle heat for six days. He, however (with Professor Quadri), thinks the use of the proximate principle, colchicina, would be the most invariable in strength and therapeutic effect. If Sir E. Home's formula should be adopted, it should be kept in two states, one with the deposit and the other without it. He says, colchicum bulbs contain both extractive and mucilage; when the vinous solution is strained and allowed to stand, a considerable deposit is soon separated. This deposit, he adds, is not only active, but virulent, as six grains given to a dog produced twenty-four hours vomiting and purging. It operates in every respect like the eau medicinale, in removing the pains of gout. It may be given in small doses first, and increased to 90 drops. The seeds beaten into a mass with mucilage, and divided into pills, act as a brisk cathartic, and give complete relief in facial neuralgia. The acetum colchici, neutralised with magnesia, and combined with some sulphate of magnesia, is considered by Sir C. Scudamore, the best formula for gout, as it is inoffensive to the stomach, and certain in its effects on the bowels. Dose ʒss. to ʒiss. (Mr. Donovan, p. 149.)

Land Scurvy.—Dr. Mc Nab employs mineral and vegetable acids; preparations of iron; bitters, as cinchona, chyractta, wine, beer, &c. He says the only curative is change of air, and that death is nearly certain without it. It is the "ultima et unica remedia." (p. 137.)

AFFECTIONS OF THE NERVOUS SYSTEM.

Tetanus, *Traumatic.*—In the early stage give calomel and opium; which failing to relieve, calomel three gr., tartarised antimony half a gr., opium two gr., every three hours, and a double dose every night. An enema in the morning. (Mr. Greenhow, p. 40.)

Owing to an attempt to extract a tooth. It was broken when the patient had hardly recovered from the menstrual state; it recurred, however, before the tetanus subsided, but there was not complete freedom from it until the menstruation ceased. On the 3rd day blistered from the temple to the chin, and the blister dressed with an ointment of ung. hydrarg. and morph. mur. Bags of ice were applied to the whole track of the spine, and one gr. of morph. mur. was given every hour until sterterous breathing was induced. (Dr. M'Girr, p. 37.)

Trismus Nascentium.—As much one of the opprobria medicorum as ever, both as to its pathology and its treatment. Post mortem examination, with the consideration of the peculiar relationships of the excito-motor system of nerves, can alone lead to a just estimate of its true cause, and point to its proper treatment. Curling found "Increased vascularity in the substance of, and in the membranes enveloping the upper part of the spinal cord." So also Dr. Thompson, of Philadelphia. Billard found "An effusion of a quantity of coagulated blood in the spine, from a rupture of the minute vessels of medulla—a spinal apoplexy." Dr. Sims points out a remarkable irregularity in the feeling of the bones:—The child had lain, during the whole of its illness, exactly in one position, the weight of the head resting wholly on on the os occipitis; the latter pushed in upon the brain, being overlapped for a quarter of an inch or more along the whole course of the lambdoidal suture, by the edges of the ossa parietalia; the superficial posterior vessels full of black blood, and a coagulum occupying the whole length of the cord, envelopiug perfectly the medulla; spinal veins full of black blood. Treatment to consist in the removal of immediate or remote causes of the congestion, by care as to the position of the child's head, by placing it on its side, so as to take off the weight of the body from the os occipitis. (Dr. Sims, p. 31.)

Hydrocephalus.—The external application of mercury may be ordered to be rubbed in or smeared on the leg (inside) every twelve hours, and covered with a stocking made to tie lightly above the knee. Small doses of iodide of potassium (one gr. every three or four hours) may be also given. (Braithwaite, p. 147.)

Delirium Tremens.—Whilst the tongue and mouth are moist, and urine abundant, dont be afraid of giving opium for the purpose

of procuring sleep when needed; but be careful if these symptoms are not present. (Dr. Corrigan, p. 3.)

Paralysis.—Besides other modes of treatment, make use of electro-magnetism, which may be useful in

1st.—Partial paralysis from congestion. Time, friction, change of air, strychnia, and restoration of the general health, may succeed; or electro-magnetism, applying one of the conductors, covered with wet linen, over the trunk of the largest nerve of the affected part, and the other, similarly prepared, over the region of the palsied muscle, for some minutes. The remedy may be continued for some time.

2nd.—Paralysis of muscles supplied by the portio dura.

3rd.—Local paralysis, involving the whole or part of a limb from exposure to cold. One conductor to be placed over the lower cervical spinal region, the other passed down the arm.

4th.—Paralysis affecting one side of the body or a single limb, the result of exhaustion. This case was a lady of weak and strumous diathesis, and was exhausted by nursing, the left arm becoming palsied. Under generous diet, weaning, and electro-magnetism, the paralysis was cured.

5th.—Paralysis from hæmorrhage or enervation.

6th.—Rheumatic paraplegia. One conductor being pressed against the sacrum, the other placed in a basin of salt and water, in which the feet are immersed.

7th.—Paraplegia from sitting too long in the bent position, as at the desk, or any cause which keeps the body bent forwards. Due nourishment, rest in the recumbent position, iron or zinc, and electro-magnetism, subsequently, will generally succeed.

Cautions.—Electro-magnetism acts most effectually in cases of recent attack. In old standing cases, the remedy must be perseveringly applied, or no benefit will accrue. Do not use this remedy because paralysis exists. In truly organic lesion it may often be mischievous, especially where there is subacute inflammation, or a highly irritable state of the spinal marrow. (Dr. G. Bird, p. 41.)

In obstinate paralysis after apoplexy give brucine. a centigramme (1-154 gr. Fr., = 1-6th gr. avoir.) in infusion of arnica; increase the dose one centigramme daily, until its effects are evident, and then proceed discretionally. (M. Brichteau, p. 46)

Anæsthesia.—Treated by electro-magnetism, and cured by the application twenty-two times, from an hour and a half to two hours' sitting each time. The current passed down the whole spine half an hour; then from each side of the sacrum to each foot for half an hour; then from the spine to the abdomen for half an hour. (Mr. Christophers, p. 45.)

Epilepsy.—Iodide of potassium three grs. three times a-day, and the mouth to be affected by plue pill. (Dr. White, p. 55.)

Sciatica.—Treated with moxas. Tincture of guaiacum and aconite was prescribed and the dose increased. Aconite plaster over the seat of pain. Cupping over the part, and afterwards two grs, calomel and one gr. opium; then a mixture of vin. colchici and tinct. aconite: lastly, six moxas; since which the case has done well. (Dr. A. T. Thomson, p. 47.)

Neuralgia.—Apply a blister as soon as possible to the trunk of the nerve, and sprinkle upon the surface from half a grain to a grain of morphia every morning. Attend to the general health at the same time, giving internally every night pil. hyd., pil. aloes, ext. acet. colchici, aa. gr. iij., and five grains of iodide of potassium thrice a-day in any convenient vehicle. This endermic method has succeeded when leeches, blisters, moxas, belladonna, arsenic, iron, iodine, turpentine, and guaiacum have entirely failed. (Dr. White, p. 49.)

When other treatment, (as valerianate of zinc and quinine, &c.,) fails, try a very strong decoction of coffee at the commencement of each paroxysm of pain. (M. Piorry, p. 50.)

Chorea.—As the causes are various, so the treatment must be according to the circumstances of each; for the weak and delicate, ill-fed, and ill-clothed, half a dr. rhubarb macerated twelve hours in port wine; and in quantity, given according to the age of the patient, three times a-day. If a loaded condition of the bowels, or worms, or improper aliment, purgatives and a strict attention to dietary. If connected with absence or deficiency of catamenia, cupping on the loins, hip-bath, aloetic purgatives, and a combination of steel, ammonia, and aloes. If an inflammatory affection of the pericardium, antiphlogistics, cupping, leeches, blisters, calomel, antimony, opium. If from inflammatory thickening of the spinal theca, or disease of the brain, local and general treatment on common principles. The mineral tonics appear to possess nearly equal advantages, but the cases for their application must be peculiarly chosen, and then benefit will be enhanced by combination with the vegetable tonics and purgatives. Electricity is of very doubtful efficacy. (Dr. Hughes, p. 360.)

Cleanse the bowels, and give the following:—℞. Ferri subcarb. sacch., sodæ bicarb., aa. gr. ij.: pulv. aromat. gr. j. ft. pulv. ter in die sumendus. Use the tepid shower bath, and if the above powders does not what is expected, try oxidi zinci, sacchari albi, aa. gr. iij.; M. ter in die sumendus, and increase the dose if necessary. (Dr. Bellingham, p. 51.)

Hysteria.—Often accompanied with retention of urine from spasm about the neck of the bladder. Evacuate the large intestines, by an injection of turpentine and assafætida. Use the cold hip-bath, and cold douche. Regulate the catamenial function, and

then give stimulating tonics, good diet, warm clothing, and exercise. (Dr. Todd, p. 52.)

Give the pil. galb. co. when the large intestines are disordered as shown by pain in the left side. (Dr. Munk, p. 53.)

Give valerianate of zinc. (Dr. Lever, p. 53.)

Spina Bifida, *Operation for.*—The base of the tumor may be compressed between two rods of wood directed in the line of the vertebral column, and at first brought into single apposition; then, punctured with the trocar, and as the cyst empties, the pieces of wood may be more approximated, so as to bring the two surfaces of the serous membrane into contact. The rods may be removed on the tenth day, and on the fifteenth the second ligature may probably fall off. (M. Latil de Timecour, p. 159.)

As some constitutional symptoms frequently supervene upon operations for spina bifida, too much precaution cannot be taken to secure the evacuation of the sac as gradually and in as constant a manner as possible; and that operation which appears the most suitable for attaining the end should be adopted, and, above all, timely put in practice. (Mr. Dumville p. 160.)

Toothache; *New Remedy for.*—Cold saturated solution of camphor in æther, to which a few drops of liquor ammonia are added. (M. Cottereau, p. 406.)

Caries of the Teeth.—Scrape out the entire of the softened carious part, and rub its interior with a saturated solution of nitrate of silver, or with pulverised nitrate made wet. (p. 232.)

AFFECTIONS OF THE CIRCULATORY SYSTEM.

Arteries, *Wounds of.*—On treatment of wounds of arteries, observe as follows:

1st.—No operation to be done upon a wounded artery unless it bleeds.

2nd.—That no operation is to be done for a wounded artery in the first instance, but at the spot injured, unless such operation be impracticable.

Brachial.—If compression do not suffice, bare the vessel, and place a ligature above and below the wound. If above the edge of the bicepital aponeurosis, cut down, place one ligature just above the seat of injury; do not open the aneurismal sac, nor look for the vessel below it; use moderate pressure along the sac; observe the horizontal position, and, if necessary, deplete.

Ulnar, trunk of, upper third.—Cut boldly down upon it through the muscular structure, and apply a ligature above and below. In wounds of the ulnar in the hand, secure always by ligature.

Radial.—Tie where practicable; where not, try compression; but if swelling of the hand prevent this. tie the radial above, and compress the ulnar or the brachial itself from time to time, or, as a last resource, the ulnar may also be tied. If bleeding still recur, do not amputate, but cut carefully down to the metacarpal bone, and if it cannot be suppressed, remove the bone and finger to give more room, and let amputation be your last resource.

Treat wounds of the foot on the same principles.

Hand or foot.—Dilatation of the external wound, and ligature above and below. If not practicable, then use compression on the principal trunk, and a graduated compress and bandage on the wound.

Aneurismal Varix, or Varicose Aneurism.—When obliged to perform the operation, either from great increase of swelling or anxiety of the patient, cut freely down to the artery, and place upon it a ligature above and one below.

Tying of Arteries.—1. Where the *axillary* artery is injured below the giving off the subscapular and p. circumflex. branches, place a ligature below, but not immediately below, the latter branch. Where it occurs from a sloughing state of stump, tie the artery in the first instance, and if that prove unsuccessful, amputate. 2. If from *femoral*, judge well the part from which the bleeding comes; mark the shortest distance from the face of the stump at which compression arrests the hæmorrhage, and there apply the ligature, but if it be just above the a. profunda, amputate, if the strength of the patient will admit. 3. If *after amputation at the shoulder-joint*, cut down through the great pectoral muscle, and place the ligature anywhere below the clavicle. The same principles are alike applicable where danger arises by oozing from the surface of the stump, not capable of being suppressed by pressure. 4. Where a small vessel (the branch of a much larger) bleeds, take up the branch, and not the trunk, if possible. 5. Where the bleeding artery can be seen at the bottom of the wound, cut down upon it, and place a ligature around it, both above and below the artery. 6. Hesitate before tying the *external iliac* for wounds of the femoral; and keep in view the general principle of tying arteries as near as possible to the bleeding points. If bleeding recur, the operation must then be boldly executed, even if the iliac artery had been previously tied. 7. The operation of applying a ligature upon the *axillary* artery itself, at the part injured (in all cases of wounds, and in all cases of recent circumscribed or diffused aneurismal swellings, the consequence of wounds), is the substitute which ought in all cases to supersede that of ligature upon the *subclavian.* 8. If the *femoral* artery be divided by a fracture of the femur, operation will generally be required, and always so if the fracture be a comminuted one. If

the puncture made by such fracture give rise to aneurism, treat first the fracture and then the aneurism.

If consequent mortification proceeds unchecked, and there be much constitutional disturbance, arrest it first, and let the line of separation be well observed. Where there is much weakness or irritability of constitution, defer the operation, particularly if there be hope of the patient becoming stronger and more tranquil. If mortification has once stopped, and again begins to spread, amputation will give a chance of life. 9. Never apply the tourniquet for aneurism, or wounded artery, but compress it with the hand 10. To promote collateral circulation after a large artery has been tied, rub the parts below gently with the hands for several hours, or for three or four days, relaxing during sleep. 11. If the external wound, which has reached the artery, has healed for weeks or months, give rise to a diffused or circumscribed aneurism, treat it as an aneurism occurring from an internal cause, with this difference, that as the artery is sound, the operation may be performed close to the tumor. (Mr. Guthrie, p. 182—185.)

Aneurism.—On this subject we notice the accidental discovery, by a patient of Dr. Harrison, of the application of a number of clamps, (such as used by joiners and cabinet-makers, to secure their glued wood-work), along the course of the artery, proving it not to be necessary completely to arrest the pulsation in the tumor; but by causing a lessened current of blood through it, produce coagulation and a contraction of the sac. (Mr. Wilde, p. 199.)

Dr. Bellingham applies two compressing instruments upon separate parts of the limb, one tightened, the other not; and by thus alternating the pressure, producing the same effect as if constant compression were maintained at one point, the patient being enabled to bear it for a much longer period than other instruments. (p. 205.)

Ligature of Arteries, without Dividing the Middle and Internal Coats.—Chelius considers it unnecessary to draw the ligature so tight as is commonly recommended, but only so much so, that the whole of the internal coat be brought in close contact, and that the ligature should indent the external coat of the vessel. (Chelius, p. 190.)

Torsion of Arteries, Effects of.—Torsion, by producing obliteration of the vessel, either by coagulation and simultaneous assimilation of all the three coats at the spot, or by the slow and insensible contraction, as by ligature, converts the arterial tube into an impervious cord. It is adapted to small arteries of the fourth or fifth order, radial, ulnar, tibial, intercostal, cervical, thoracic, external pudic, spermatic, digitals. Seize them with forceps, close the instrument and twist in the fingers, three, four, or six times in the

same direction, and then abandon them, or return to the operation if not sufficiently twisted. Care must be taken to seize the whole calibre of the vessel; to take sufficient hold; not to include the surrounding textures; and so to twist them that the proper coats are ruptured, but not so much that the cellular coat is also broken. Its advantages are simplicity and celerity, no assistance being necessary, and its not leaving foreign bodies in the wound. (Dr. Porta, p. 209.)

Galvano-puncture in Aneurism.—The galvanic current should be directly transmitted through the blood itself by two opposing points. Employ fine steel needles, three inches long, and as they burn or cauterize the skin, or lose their electricity, coat them, before application, with gum lac or cutler's varnish. The extremities of the needles should cross each other in the tumor, and when the latter is of large size, multiply the points, so that the nuclei of coagulation may pass into one common clot. They should pass into the tumor obliquely or perpendicularly, opposed to the current of blood. The application of the galvanic current may be made each time ten or twelve minutes; by this time the tumor will feel hard, and the pulsation cease: after this, apply compression, or a bladder of ice, to complete the cure. It is suggested for the cure also of varix, erectile and sanguineous tumors, &c. (M. Petrequin, p. 212.)

Mr. Hamilton has tried it in a case of carotid aneurism. He passed fine gold needles coated with shell lac, an inch long, through the inner and outer sides of the tumor, and made them to touch in the centre; then used Smee's battery, with twelve pairs of plates, gradually applied. After fifteen minutes, pulsation became less, the tumor firmer, and, at the end of twenty minutes, complete coagulation was evident, as the tumor was solid and the pulsation was imperceptible. (Hamilton, p. 216.)

Simple Puncture without Electricity.—By simply passing needles through the tumor (transfixing) and leaving them in twenty-four hours, With one needle a fibrinous coagulum was formed, attached to the side of the artery, which Dr. Namais thinks would have changed into a solid cord, and filled the interior of the vessel, if the animal (a horse) had lived long enough. He thinks the needle caused a slower motion of the blood at the part where the needle passed through the tumor, and collected around it the deposit of fibrine. Its facility and simplicity are its recommendations over the application of galvano-puncture, &c. (Dr. Giacinto Namais, p. 218.)

Ligature of Left Subclavian within the Scalenus Muscle.—Lay the patient on a low bed, with the head and shoulders raised, and the face turned to the right side. Make an incision three and a half inches long, on the inner edge of the mastoid muscle, terminating at the sternum, and dividing the integuments and platysma

myoides. Make a second incision from the last, horizontally, towards the sternal extremity of the clavicle, two and a half inches long. Dissect the flap of integuments and platysma upwards and inwards, so as to lay bare the sterno-mastoid. Pass a director under this muscle, and divide the sternal and half the clavicular attachments with a bistoury. Turn these portions up, so as to show the sterno-hyoid and sterno-thyroid muscles, and the jugular vein beneath the fascia; also a portion (in this case) of the aneurismal sac, strongly pulsating. Divide the fascia with the handle of the scalpel and fingers, and pass down the inner side of scalenus anticus, carefully avoiding the internal jugular vein, thoracic duct, and phrenic nerve, until the finger reaches the artery and recognises well its pulsation. Detach the artery very deliberately, so as to avoid wounding the thoracic duct and pleura, and pass the aneurismal needle (in this case, Sir Philip Crampton's) under it, with the point and ligature upwards. Catch and secure the ligature, (tying it securely with the point of the fore-finger, in the bottom of the wound), and, to be satisfied that the artery is secured, take care to examine the distal part of it for the cessation of all pulsation. (Dr. Rogers, p. 219.)

Aneurism by Anastomosis on the Forehead.—Treatment by numerous Operations.—1. Ligatures placed upon the temporo-frontal and two temporo-parietal arteries of the right side, and upon the temporal artery in the frontal region and the temporo-parietal of the left: these made by needles passed under the arteries and compressed by a thread wound like 8. 2. Destruction of morbid structure by caustics. 3. Excision; and 4. Compression. (Dr. Warren, p. 192.)

Nævus Maternus.—Extending over one side of the face, as far as the eye, to the lower lip and chin, and downwards upon the neck to a little below the clavicle. Application of a ligature, 1st. To the left external carotid: 2nd. A ligature on the right carotid, a month after the first: 3rd. Breaking up the structure of the lip affected, with a cataract needle: 4th. The removal of a V shaped solid portion of the lip, two inches long. (Dr. Warren, p. 192.)

Treatment by Caustic.—Introduce a narrow knife, one-eighth of an inch wide, into the middle of the nævus, and move it in different directions, so as to disintegrate its vascular structure. Then apply a small caustic, or a probe armed with it (by being dipped into the nitrate, melted in a platina or silver spoon), into the puncture made with the narrow knife, and move it about, so that wherever the knife has divided the blood-vessels, the caustic may freely penetrate. Extend the operation, if not effectually done by the first application. (Sir B. Brodie, p. 222.)

Internal Jugular, Wounds of.—May be tied by passing a tenaculum through the cut edges, and drawing them together without destroying the continuity of the vessel.

Partial Division of the Coats of an Artery.—Place a ligature both above and below the division, and do not trust to the vis medicatrix.

Wounds of the Throat with Hæmorrhage.—First, if necessary, tie the external, and if it should not cease, and the wound be not in the internal carotid, then tie the common carotid.

Moles.—Wash with soap and water, and rub until the blood fills the delicate branches of the erectile tissue. Make the skin tight, and then cover with a paint made of stiff white lead and carmine, and, having transpierced a cork with three needles, so that their points project sufficiently, puncture the surface and texture of the mole. (Chelius, p. 223.)

Varicose Veins.—Having marked the veins to be cured with ink, apply a small caustic, of five parts quick lime, and four parts potassa, mixed up with spts. wine, (Vienna paste), over each projecting vein. When in the horizontal position, insulate each place of application of the caustic with a circle of plaster three or four thicknesses, the internal space being not more than one-quarter or one-third of an inch in diameter. Remove the caustic in half an hour, and dress in the usual way, applying a bandage. From six to twelve applied at one time will be sufficient. (Mr. Skey, p. 223.)

Hæmorrhage *from the nose.*—Introduce the little finger into the nostril, and press upon its floor until the bleeding stops; then take a dossil of lint, and roll it upon powdered alum, and press it upon the floor of the nostril with the little finger. Introduce pieces of lint, in this way, until the roof of the nostril supplies the pressure of the finger. (Dr. Oke, p. 226.)

Hæmorrhage from Leech bites.—Wipe the orifice with a bit of lint or fine linen, and when nearly dry, seize a small portion of integument around the bite with the thumb and finger, and make moderate pressure, until the hæmorrhage is completely suppressed, which will be from five to fifteen minutes. (Dr. Marshall, p. 288.)

Or, take a small pinch of down from a beaver hat and pile it upon the orifice; then put over the down a piece of thin muslin, and draw it tightly. If blood oozes through both, dry it, until the hæmorrhage ceases, and in a short time the down and muslin will have become matted with coagulum. All superfluous down may be cut off, and in two days the orifice will have healed, and the matted matter will fall off. (Dr. Houston, p. 228.)

Or, apply a piece of lint dipped in a strong solution of alum, or apply to the place, tobacco, such as is used for smoking. (Mr. Gervis, p. 229.)

Venesection from the Foot.—Immerse the foot in hot water to swell the veins. Put on a bandage an inch above the ankle. In

puncturing either of the veins before the malleoli, be careful not to touch the bone with the point of the lancet. If the vein bleed in a stream, catch the blood in a vessel; but if it only dribble, the foot should be put into the hot water, and judge of quantity by the colour. (M. Malgaigne, p. 227.)

AFFECTIONS OF THE RESPIRATORY SYSTEM.

Croup.—In croup, scarlatina maligna, &c., where great prostration exists, the stomach seems insensible to ordinary emetics, which only purge, and increase the prostration. In such cases, try the turpeth mineral, (subsulphate of mercury.) To a child, twelve years old, give five grains every fifteen minutes, accompanied by mustard whey, till vomiting is produced. The second dose will generally be sufficient. It vomits for an hour or two without causing purging, or subsequent prostration. It may be repeated twice or thrice in twenty-four hours. (Dr. Hubbard, p. 148.)

Antiphlogistic treatment is sometimes useless, if not hurtful. Emetics useful by acting mechanically? Mercury may be given early. Local applications may comprise dilute muriatic acid, alum, and nitrate of silver, the two latter used in the solid or liquid state. In using caustics be careful to hold the child's head steady, and have the caustic firmly fixed, and not far projecting from the port-caustique. Or, it may be used by means of a piece of sponge fastened to the end of a piece of whalebone, like the sponge probang, bent at an obtuse angle, or curved; care being taken to cleanse the surface well. This may be done three or four times a-day. Tracheotomy is the last resource. This treatment, however, is more applicable to *diphtherite* than to croup. In diphtherite the false membrane often forms first on the fauces and back of the mouth, and may be arrested by the above applications. (M. Guersent, p. 68.)

Bronchitis, &c.—Use the turpeth mineral, (subsulphate of mercury), in five grain doses, every quarter or half hour, till it causes vomiting, instead of tartar emetic, in those cases where we fear the prostrating effects of the antimony.—(See Croup.) (Dr. Hubbard, p. 148.)

Pneumonia.—The treatment consists of 1st. Subduing inflammatory action by moderate bleeding, (sixteen to twenty ounces) at the beginning of the attack, followed by three or four grs. of calomel and one gr. opium, and if crepitant râle persist, repeat the bleeding, and give tartar emetic in full doses, viz., one or one and a half grains every three or four hours, making the interval afterwards six or eight hours. Give the bitter almond emul-

sion as a sedative, or hydrocyanic acid. 2nd. Preventing deposition by exciting the capillaries, by giving hyd. c. creta, gr. iv. vel v., or calomel, gr. j. in each interval of the antimonial, so as to produce a fair constitutional impression short of ptyalism. Blister with caution. 3rd. Guard against relapse on well-known principles. (Dr. A. T. Thomson, p. 62.)

Hooping-Cough.—Purgation with calomel; if febrile symptoms, calomel and antimony; an occasional emetic, and small and repeated doses of carbonate of potassa, or the following formula: Potassæ carb. ʒ j.; coccus cacti, gr. x; aq. fervent. q. s. The dose according to age; for an infant, a teaspoonful thrice daily. (Dr. Allnatt, p. 67.)

Dr. Wachtl, of Vienna, recommends the ammoniated tincture of cochineal. (p. 67.)

In the first stage, mild antiphlogistics, daily emetics, and strict confinement to the house, except in summer months. In the latter stages give the following:—Tincture of cantharides, tinct. of opium, comp. aa. ʒ ss.; tinct. cinch. co. ʒ vss. A teaspoonful to be taken three times a-day in a little boiling water; the dose to be increased if no strangury is produced. Be careful, however, at all times, not to give opium if it can be avoided. (Drs. Graves and M'Gregor, p. 67.)

Phthisis.—Subjects of phthisis expire a much less quantity of air than when healthy, and it may be possible by the spirometer to distinguish phthisis at a much earlier period than by any other means. (Mr. Hutchinson, p. 61.)

Asthma, *Spasmodic*.—Take a piece of blotting paper; dip it in a saturated solution of the nitrate of potash, and dry; place the dried paper on a common plate, and ignite, allowing the fumes to be diffused in the room of the patient. (p. 65.)

Aphonia, *Chronic*.—Emetics, aperients, mercurials, iodide of potassium, cinchona, and acidulated astringent gargles were given five months unsuccessfully, and it was afterwards cured in three weeks by the inhalation of iodine from a Woulff's bottle for fifteen minutes twice a day, and a sulphate of quinine mixture. (Mr. Monks, p. 145.)

Asphyxia, *by Strangulation.—Immediate Treatment*.—The ligature having been removed, watch, and, if natural respiration continue, do not interfere. If respiration has ceased, use artificial assistance immediately. When normal respiration is established, desist.

If coma remain, or respiration again cease, commence again; secure a pair of bellows (if scientific means are not at hand), or a tube of any kind (a roll of paper or elastic catheter), which insert into the nostrils, and with your own lungs a fair substitute will be made:—but, 1st, Avoid undue force in inflation;

2nd. Inflate at regular intervals, imitating natural respiration; 3rd. Warming or oxygenating the air are unnecessary; 4th. Expose the chest to the full play of the lungs; 5th. Do not open the trachea, unless the larynx be obstructed; 6th. Close the useless nostril and mouth; 7th. Press the larynx against the vertebræ to prevent inflating the stomach; Electricity and galvanism are unnecessary.

After Treatment.—If congestion supervene from reaction, abstract blood cautiously, and keep the patient in a moderately warm temperature. (Sir B. Brodie, p. 70.)

THROAT, *Wounds of.*—In those where the skin, superficial muscles, and vessels are divided, use sutures cautiously, and observe a relaxed position of the parts.

When an opening is made either into the fauces, pharynx, larynx, trachea, or œsophagus, enquire as to the extent of hæmorrhage, secure every dangerously bleeding artery; remove all loose fragments; keep the wound free, and the head raised; avoid all irritation, eating, speaking, and especially sutures, or mental excitement; use an elastic tube, introduced into the nostril, or through the glottis, (when there is œdematous state of the mucous membrane,) when necessary; keep the apartment well ventilated; use the simplest dressings, as water or poultice, and if there be much discharge, a piece of soft sponge to absorb it.

If inflammation or constitutional fever supervene, use local or general bleeding, antimony, mercurial purgatives, &c.

Violent dyspnœa in consequence of excrescences or granulations in the glottis or air-passages, may be overcome by tracheotomy. (Mr. Mc'Whinnie, p. 229.)

AFFECTIONS OF THE ALIMENTARY CANAL.

GLOSSITIS.—Use purgatives of calomel and jalap; leeches and a blister to the throat, and nitrate of silver, gr. 20, aq. dist. ℥j., to be applied with a camel-hair brush three or four times a-day. (Dr. England, p. 232.)

APHTHÆ.—Take of honey, fifteen parts, diluted sulphuric acid, one part, by weight; brush the ulcerated surfaces with a camel-hair pencil dipped in this liniment; repeat it occasionally. (Prof. Lippich, p. 88.)

PERITONITIS.—Do not force the peristaltic action of the intestines by violent purgatives, and chiefly subdue the inflammatory action which is the cause of constipation, by leeches, blisters, and mercury. Where you have reason to think accumulations of fœcal

matter are present, introduce Dr. O'Beirne's intestinal tube once or twice, but it is worse than useless to force the discharge of the contents of the intestines. (Dr. Corrigan, p. 87.)

Stomach, *Affections of.*—In irritability of the stomach, with the deposit of earthy phosphates, arising from derangement of the functions of the spinal cord, and evinced by emaciated countenance, burning, knawing pain in scrob. cordis, and heavy pain across the loins, tongue clean and red, pulse quick and sharp, skin dry and imperspirable, with vomiting after meals; try strychnia, as in the following formula:—Strychnia gr. j., acidi nitrici dil. ʒi., aquæ ℥xij., solve, at sumat æger, fiat ℥j. ter in die, and rub the scrob. with a liniment of croton oil; milk dietary, consisting of eighteen ounces of bread, one ounce of butter, and two pints of milk daily. The medicine to be taken fifteen minutes after each meal. The strychnia acts particularly upon the spinal marrow; and it is supposed that when alkaline urine is secreted, independently of the character of the ingesta, there is always some lesion of this part. (Dr. Bird, p. 98.)

Unfermented bread is said to be useful where there is habitual headache, acidity of stomach, flatulence, eructations, sinking at the pit of the stomach, and pain after meals; in fact, in confirmed indigestion, and to all who are subject to gout and gravel. (p. 153.)

Cholera, (*Asiatic.*)—Three objects are to be observed in its treatment, viz., 1. To moderate the morbid action established for expelling the poison, by replenishing the fluids. Give the patient a fluid for drink, consisting, as nearly as possible, of similar elements to the serum, as albumen, muriate of soda, and carbonate of soda in a very dilute state; give also effervescing salines. 2. To prevent local engorgements, particularly of the liver and vena portæ. Remove a quantity of blood proportionable to the exigency of the case, and the organ congested. 3. To promote healthy secretion, and allay pain, irritation, and spasm. Give calomel and Dover's powder freely, until the vomiting and purging are restrained. (Mr. Clark, p. 78.)

Take thirty grains of sesqui-carbonate of soda or bicarbonate of potash, put it into a tumbler glass, and add a wine glass of water and a little syrup. Then dissolve twenty grains of tartaric or citric acid in half a wine glass of water, and let the patient drink it off immediately. Lemon juice may be substituted for the citric acid. The carbonic acid is said to act as an antidote to the poison in the system. (Dr. Parkin, p. 79.)

Loss of power in the heart is said to be one important lesion in cholera, and nature, therefore, endeavours to remedy the disease in four ways; which we ought to study, viz., 1. Vigorous muscular pressure (by cramps), which propel the tarry blood towards the heart. 2. The absorption of the water restores the blood

to its natural or liquid condition. 3. Nausea, by causing general relaxation of the system, diminishes the obstruction to the passage of the blood in the vessels. 4. Retching, or vomiting, assists mechanically in driving forward the blood in the distant congested vessels. (Mr. French, p. 81.)

First give calomel, rhubarb, aloes, aa. gr. x., ft. bolus; then liq. ammon. ♏ xv., and repeat in half hour doses if rejected. Effervescing draughts, soda water, liq. ammoniæ externally over the chest, abdomen, and upper and lower extremities as a rubefacient, vinegar and water to the head. *Convalescent Treatment.*—A laxative after the second or third day, and tonics for a week afterwards. Use opium cautiously. For the spasms or cramps, stretch the lower extremities, taking hold of heel and toes, and bend the toes and foot towards the patient as he lies, gently and repeatedly. Use also shampooing. (Ollapod, of Madras, p. 82.)

Diarrhœa.—Try acetate of lead for obstinate and peculiar diarrhœa, accompanying uterine phlebitis and peritonitis. This medicine seems to act by checking the peristaltic action of the intestines, and allaying pain by blunting the sensibility of the mucous membrane. (Dr. Smyth, p. 83.)

Dysentery.—Battley's solution of secale, one drachm; tinct. of muriate of iron, one drachm; water, six ounces. Mix, and give a quarter part every four hours. (Mr. Gervis, p. 84.)

Hernia.—New mode of applying the taxis, viz., drawing back the protrusion into the cavity, instead of pushing it back. Flex the thighs on the pelvis, also the loins, &c., so that the body may be coiled up. Seize with one hand the hernial tumor at its base, and compress slightly, and with the other hand bring the abdominal parietes as much towards the inguinal aperture as practicable, and by a simultaneous movement of both hands, produce traction on the hernial contents.

This plan is to imitate the practice in olden time, which was to place the patient's head downwards, and by the position of the intestines, shaking him up and down, to induce the viscera to gravitate back into the abdomen; and it often succeeded after the failure of all other means. (M. Grynfeltt, p. 283.)

Strangulated.—(*Early operation in.*)—Try the following plan of treatment:—1. Pressure for a short time is indispensible. 2. Bleeding under cautious restrictions is advisable. 3. The warm bath may be used in mild cases, but in bad strangulations they are worse than useless. 4. Cold may be tolerated in the early stage, but if too long used, or used too cold, may produce gangrene. 5. Tobacco is uncertain and dangerous; useless if weak, and dangerous if strong. 6. Opium in full doses is useful, causing muscular relaxation. 7. Purgatives are pernicious. 8. Belladonna, trifling with the life of the patient.

Summary.—In bad strangulation, where pain, tenderness, and firmness of the tumor are great, and where there is much constitutional disturbance, after cautious use of the taxis—1st, Bleed to faintness, and when the necessary relaxation is produced, 2nd, further attempts, very cautiously used, may be employed to effect reduction, but by no means exhaust too long the time and strength of the patient by the other accessory means mentioned above, but at once, 3rd, proceed to the operation. Of the utility and practicability of dividing the stricture without opening the hernial sac, there can be no doubt when the cases are cautiously chosen; and, it may be generally attempted, except where gangrene is fairly suspected, when the sac must be opened to allow the gangrenous parts to separate; or when the stricture is in the neck of the sac itself, whether at the upper or lower rings, which is not very frequent. (Dr. Warren, 239.)

Hæmorrhoids—(*Operation by cautery*)—The tumors maybe brought down as usual, opened throughout their whole length, and the fillios caustic, i.e. potassa c. calce, well rubbed in, so as to destroy the structure. Afterwards give injections to remove loose particles of caustic, and use a hip-bath afterwards. (M. Amussat, p. 242.)

Anus, *Fissures of, with a Condyloma.*—This was a most satisfactory and efficient cure of a most troublesome affection by nitrate of silver. A daily application was made of the solid nitrate, from the 29th of May, to the 19th of June, when the case was cured of both the fissures and the condyloma. (Dr. Hargrave, p. 244.

Fissure of the Anus in Children.—Give an enema daily for six or eight days, composed of extract of ratanhy, one scruple; and water, three ounces. (Trousseau, p. 246.)

AFFECTIONS OF THE URINARY ORGANS.

Kidneys.—*Treatment of Diabetes.—Glucosuria.—Diet:* Strictly forbid all farinaceous substances, as those into which starch in any way enters. Gluten bread is of great value; it satisfies the cravings of the appetite. Animal food, with eggs, milk, butter, and cheese, are proper. Also the following vegetables: Spinage, endive, lettuce, sorrell, asparagus, haricots verts, cabbage of all kinds, along with fat pork or salt bacon; cresses with oil, and hard-boiled eggs. Fresh gluten, with butter, and cheese grated upon it, is an excellent dish. For dessert, allow olives, almonds, filberts, and walnuts; occasionally, and in small quantities, allow apples, pears, cherries, currants, gooseberries, strawberries,

raisins, and pine-apples. *Drinks:* The French wines, Burgoyne and Bourdeaux, about a pint in the twenty-four hours; they are astringent; sometimes the quantity is to be increased, but the least approach to inebriety is injurious. N.B. Some patients are made worse with wine. Beer is injurious. Coffee is good, and should be taken without sugar, or the quantity of sugar should be very small. Lemonade and drinks of this class are injurious. *Clothing:* Protect the body from sudden chills, by clothing it in flannel. *Exercise* should be carefully regulated; the patient should engage in those exercises in which he takes pleasure; but fatigue is to be avoided. Baths are not of much use; occasionally a tepid bath may do good; swimming in the sea has been found very useful.

Medical Treatment.—Carbonate of ammonia, 77 grains; rum, 310; water, 1550 grains. One-third to be taken half an hour before each meal; or give it as a bolus (eight grains), with treacle, from two to ten to be taken every night.

Give Vichy water. The alkaline bicarbonates, particularly soda, are very useful.

Dover's Powder and Opiates.—The former is very useful; ten grains at bed-time. Crude opium and morphia often disorder the stomach.

Theriaca divina, ʒss. to ʒi., every night: a drachm contains one grain of opium.

Chalybeates and Tonics.—When there is decided pallor of skin, resembling chlorosis, give tonic bitters with iron. The pulverised iron, or iron reduced by hydrogen, is the best form of chalybeate.

Evacuants.—Commence the treatment by giving an emetic, and afterwards a purgative, to clear away anything injurious in the primæ viæ. Evacuants are of no use afterwards, except to combat certain symptoms.

Lime water, calcined magnesia, alkalies, nitric, phosphoric, and sulphuric acids, alum, tannin, and other astringents, are of little, if any use.

Bleeding.—General bleeding is always injurious. Leeches or cupping to different parts, as the stomach or anus (as symptoms indicate), will be found useful, viz., where there is epigastric tenderness or suppressed hæmorrhoids.

The *chief reliance* must be placed on dietetic and hygienic means. (M. Bouchardat, p. 107.)

Hæmaturia.—If the patient be young, vigorous, and plethoric (not otherwise), general bloodletting. If the kidneys are affected, cup over the loins; if the bladder is painful, apply leeches to the groins or perineum. In renal cases, dependent on subacute inflammation, use counter-irritation, by means of antimonial ointment. Do not apply blisters. If the pain seems to arise from the presence of calculi in the kidney, apply morphine ointment,

or apply a belladonna plaster to the loins. When the circulation is increased, and there is no sickness, give tartar emetic. If there is sickness, give digitalis. In order to restrain the hæmorrhage, give acetate of lead and opium, or sulphate of alum with hyoscyamus. If the pain is decidedly connected with the bladder, use anodyne suppositories. Ergot of rye is very efficacious in stopping the hæmorrhage. and it produces no unpleasant effects: give it in doses of ten to fifteen grains, with a little carbonate of soda or potash, and at intervals of from four to six hours. Should it disorder the stomach, add a few grains of ginger or comp. cinnamon powder. Any of the mineral acids may be given according to the individual case. In chronic cases, give copaiba and turpentine; also pareira brava, and uva ursi; and improve the general health with iron and iodide of potassium. Cold should be applied, and cold water injections used as auxiliaries to restrain the hæmorrhage. (Dr. Fife, p. 86.)

Alkaline Urine.—Use strychnia when the affection follows injury or lesion of the spine, as recommended by Dr. Golding Bird. (p. 100.)

Nephritis—Give copaiba in ten drop doses, three times a-day, in cases of nephritis with suppression of urine, after bleeding and the ordinary treatment have failed. (Mr. Roberts, p. 65.)

Bladder.—*Lithotrity.*—This operation is applicable, 1st, to patients above puberty, if the stone is not large, say $\frac{1}{2}$ to $\frac{3}{4}$ inch diameter, or as large as a chesnut; 2nd, when the bladder and urethra are tolerably healthy, as shewn by retaining the urine for hours, and being able to pass it in a good stream, and when the bladder will admit of injection and careful exploration. (Liston, p. 247.)

Dr. Arthault's new instrument is capable of crushing and pulverising, in three minutes, a calculus of the size of a pigeon's egg. (Gaz. Med. Chir., p, 249.)

Lithotomy.—1. Use the simplest instruments. 2. Interfere as little as possible with the ileo-vesical fascia. 3. Know well the exact position of the stone, for the use of the forceps is the most annoying part of the operation. 4. Dilate internally, if necessary, for a large stone; or make a bilateral incision, but it is very seldom necessary. 5. Introduce a gum-elastic tube through the track of the wound into the bladder, to secure the flow of urine from it, and keep it there, in children 20 hours, in adults 40 or 50. (Mr. Liston, p. 247.)

In performing the operation of lithotomy in the *female*, introduce a deeply-grooved straight director into the bladder; then pass a straight probe-pointed bistoury along it, and make an incision, about half an inch in extent, towards the tuberosity of the ischium, the wound being limited to the anterior half of the ure-

thra. Next, make a slight nick in the right (?) side of the orifice of the urethra, and withdraw the director; then gradually introduce the point of the left fore-finger into the wound, and carefully dilate the *posterior* half of the urethra; finally, seize the stone with a small lithotomy forceps. Mr. Fergusson thinks that the incision in the anterior part of the urethra, produces less injury than dilatation. (Mr. Fergusson, p. 249.)

Dr. Baker, of New York, on the other hand, divides the urethra half an inch posterior to the meatus urinarius, leaving this orifice and the anterior portion of the urethra undivided. (Dr. Baker, p. 251.)

URETHRA.—*Stricture.*—M. Civiale uses the flexible sound, carrying a port-caustique within, but projecting an inch beyond the latter. The length of the opposite end is about eight inches. The smallest port-caustiques are three-quarters of a line in diameter, and are flexible. The conductors are elastic gum, straight or curved, according to the situation of the stricture; they are seven inches long, and from two to three lines diameter, having a graduated scale attached. The anterior opening is proportioned to the size of the port-caustique, which fits without being tight. Care is necessary that the extremity of the port-caustique is completely introduced into the constricted part at the moment when it protrudes from the conductor; this will be obtained by gentle traction on the penis.

When the stricture is much contracted, so as to admit only a very delicate bougie, renounce the caustic, or apply it from before backwards. Its application should be confined to linear contractions, capable of admitting the port-caustique, and an exact impression of the contraction. When the melioration is not progressive, discontinue the use of the caustic, and resort to other means. (Dr. Civiale, p. 261.)

Urethral Fistula.—When from healthy abscess, to be treated by encouraging granulations, assisted by permanent catheters.

When from specific abscess and stricture, to be treated by simple incision into the urethra through the perineum, to divert the urine for a few days before performing the opertion, and when this is healed, by using permanent catheters. (Segalas and Ricord, p. 265.)

Perineal Fistula.—If the application of caustic or the actual cautery fail to keep the orifice raw, so that the granulations cannot close it, a taliacotian operation should be tried, as modified by Dieffenbach, which consists in not turning the flap round or bringing the edges together, but of separating two little lateral flaps from the penis, at the sides of the fistulous opening.

If calculi are passing through the urethra, and lodge in front of the scrotum, endeavour to draw them forwards to the orifice,

which, by a little enlargement, will allow them to come out. If not able to be brought forwards, try to pass them back, so as to cut on them in the perineum behind the scrotum. (Mr. Hawkins, p. 268.)

Urine, Extravasation of.—Cut down upon the part, lay open the urethra, and allow the pus and urine to escape; then apply warm poultices to favour the separation of the sloughs. Support the scrotum, should it be implicated, and afterwards use astringent lotions. During the attendant fever, relieve the bowels with an enema, and give Dover's powder; and, when low symptoms come on, give stimulants (brandy) and opium. (Mr. Quain, p. 265.)

Hæmorrhage from Urethra.—Hæmorrhage from the urethra, as well as other cases of hæmorrhage, may be treated by solution of secale. Battley's solution of secale ʒj.; tinct. of sesquichlor. of iron, ʒj.; water, ℥vj. Mix, and give a quarter part every four hours. (Mr. Gervis, p. 84.)

AFFECTIONS OF THE ORGANS OF GENERATION.

Syphilis.—*Chancre.*—If seen within three days, apply nitrate of silver freely, and secondary symptoms need not be feared, and even after this time, in nine cases out of ten, the same results will take place. There are some indications, however, against the use of caustic, and these are inflammation, or great irritation of the part; but, perhaps, the most important indication, against its use, is induration of the sore; the constitution is sure to be affected when this occurs, and mercury *must* be given. (Mr. Acton, p. 268.)

Secondary Syphilis.—Pains in the Long Bones, &c.—Give hydriodate of potash, five to eight, or to fifteen grains three times a-day, and, if not successful in a few days, then mercury may be had recourse to. Where the secondary symptoms are scaly eruption, excavated ulcer of the tonsil, swelling of the testicle, excavated ulcer of the tongue, acute ulcers of the edges of the eyelids, iritis, purulent discharge of the meatus auditorius externus, papular eruption without fever, desquamating tubercular and pustular eruption, secondary ulcers, fissured tongue, ulceration round the nail, phagedenic ulcers of the skin, and foul sloughy ulcerations of the pharynx, they will be benefitted by mercurial fumigations. (Mr. Ormerod, p. 275.)

M. Ricord often substitutes the bromide for the iodide of potassium. The dose is the same, and it has produced the same therapeutic effects, but more slowly. It is much cheaper. (p. 277.)

Syphilitic Testicle.—Combine the mercurial treatment with iodide of potassium. Give three quarters of a grain of iodide of mercury in a pill every night, and one or two grains of iodide of potassium twice or thrice during the day Continue this treatment for some time after a cure is effected. When effusion into the tunica vaginalis occurs, the fluid is generally absorbed; occasionally, however, it remains, and it is necessary to tap and inject the sac; before doing this we should endeavour to procure its absorption, by mercurial frictions on the scrotum, or the application of bego plaster with mercury. We should also try compression. (M. Helot, p. 277.)

Gonorrhœa.—Gonorrhœa has six regions as its seat in the urethra. 1. Balanic, or the portion within and just behind the glans penis. 2. Spongic, or the portion extending from the glans penis to the bulb. 3. Bulbic, or the portion situated about the bulb, and to the membranous portion, 4. Membranic, the whole membranous or muscular portion. 5. Prostatic, or the part involved by the prostate gland. 6. Cystic, when the specific poison affects the bladder.

Destroy its existence as quickly as possible, as there is no fear of stricture, if no phlegmonous inflammation. Take six to twelve copaiba capsules daily, or one to two oz. of cubebs. Use an injection of ten to fifteen grs. arg. nit., aq. distillat. ℥j. Do not mix copaiba and cubebs in one preparation, or give them together.

1. Where there is active inflammation, use active antiphlogistic measures, baths, and laxatives, and when subdued as above.

2. Where dysuria, apply leeches in perineo, cool lavements, general baths; if it continue very distressing, use an elastic catheter of moderate size.

3. Open abscesses as early as the matter is well formed.

4. Vesical tenesmus; inject per rectum aq. ℥iv., tinct. opii. 20 v. 30 drops.

5. In commencing gleet, inject ter die aq. dist. ℥vij., zinc. sulph., plumb. s. acet. aa., ℈j.

6. In chronic gleet; if no particular thickening or stricture, use wine, tannin, alum, or iodide of iron (aq. dist. ℥viii., iod. ferri, gr. ij. ad iv.) injections.

Injections with copaiba or cubebs are generally useless.

7. Epididymitis; or inflammation of epididymis, use a suspensory bandage. N.B. Be careful not to confound orchitis with epididymitis. (M. Ricord, p. 255.)

Enjoin rest and temperate habits. Use astringent injections, as nitrate of silver, quarter of a grain to the ounce, used only once in twenty-four hours; or sulphate of zinc or alum, from ten to fifteen grains to the ounce. At the same time give the capsules

of copaiba in large doses an hour after each meal; give a large dose (five or six) at bed-time. Direct the patient to void his urine every half hour or so, previous to which he should inject a small quantity of injection. (Mr. Brett, p. 257.)

Mr. M'Donald condemns solutions of nitrate of silver because of producing cystitis, and recommends it in ointment, a drachm to an ounce of lard, smeared on a bougie, and introduced three inches in the male, and retained three minutes. The penis afterwards to be bathed in warm water. (Mr. Mc'Donald, p. 257.)

Whenever gonorrhœa is followed by secondary symptoms, it is more than probable that there originally existed some syphilitic sore just within the orifice of the urethra, unobserved by the surgeon. (p. 276.)

Ectrotic or Abortive Treatment.—In the very early stage, before the suppurative crisis, inject a solution of nitrate of silver (grs. xii. to ℥i.) about two inches and a half down the urethra, by means of a glass syringe. Only use it once or twice, and if it fail in arresting the disease, then have recourse to ordinary treatment. (Dr. Arnott, p. 254.)

Scrotum.—*Hydrocele.*—Treated successfully by alcohol, after the puncture had been made twice unsuccessfully. The scrotum was enveloped with a large compress, four times doubled, and steeped in alcohol of thirty degrees, and kept on by a suspensory bandage. This lotion was continued forty days. (M. Pleindoux, p. 284.)

Discharge the fluid with a trocar or pocket lancet. Apply a warm vinegar poultice. When sufficient inflammation is superinduced by the poultice, apply poultices of bread and milk, and give a few smart doses of purgative medicine. (Dr. Harvey, p. 284.)

PARTURITION AND DISEASES OF WOMEN.

Vulva.—*Follicular Disease of.*—Arg. nit. and nitric acid are of no use. Hydrocyanic acid lotion is serviceable, or an ointment made of two drachms of prussic acid and a scruple of diacetate of lead, with two ounces of cocoa-nut oil. The parts are to be first washed with infusion of roses, and the ointment applied two or three time a-day on lint.

Or try a lotion of lime water with opium; or make a poultice of bread, saturated with decoction of conium leaves, to a pint of which add two drachms of the liq. plumbi diacet.

When irritation is excessive, prescribe vapour-baths, either simple or medicated with sulphur. Attend to general health, order a nutritious but unstimulating diet; avoid wine and porter; give milk with lime water; keep the patient at rest; forbid sexual intercourse. There should be change of air. Give the vegetable tonics, as cascarilla, calumba, cinchona, sarsaparilla, &c.; keep the bowels open with small doses of magnes. sulph. in infusion of cascarilla or camomile. When the symptoms are decidedly abating, give a mild mercurial course with sarsaparilla. (Mr. Oldham, p. 383.)

Vagina and Urethra, *Disease of.*—The value of the speculum is incalculable in all cases where there is reason to suspect disease of the neck of the uterus.

Local Treatment.—In vulvular inflammation, the hip-bath and poppy fomentations. For the itching, nitrate of silver ʒj., aq. dist. ℥j., applied three or four times a-day; or tincture of matico. Both may be applied either with a camel's hair pencil or with a stick, to which a piece of sponge is tied. Lotions of the soluble salts of lead, zinc, mercury, narcotic preparations, borax, hydrocyanic acid, bread crumb soaked with liquor plumbi. diacet., gelatine and bran baths.

General Treatment.—Mild saline purgatives, rest, sea-bathing, alterative doses of mercury, as Plummer's pill gr. v, nocte maneque. Brandishe's alkaline solution, twenty drops in an ounce of any bitter infusion; balsam copaiba. For pain in the back apply cautery to the sacrum. (Dr. Mitchell, p. 382.)

Uterine Polypi and Ulceration.—If small, remove them by twisting, with a forceps, consisting of a straight stem, eight inches long, having two short spring blades, with serrated tips, upon which slide a brace movable from the handle, by which they are easily pressed firmly together, and made to grasp very securely any object caught between them. Apply nitrate of silver to restrain bleeding. Where it is necessary, in a larger pedunculated polypus, apply a ligature; Niessen's double canula is recommended, and with it, silk salmon fishing line soaked in linseed oil, which combines strength, perfect pliability, and softness, and is unaffected by moisture. N.B. In persons of a high habit, and who are subject to indulgences in dietary, be careful not suddenly to suppress menorrhagic discharges, because of the dangers of determination to cerebral congestion. (Dr. Montgomery, p. 375.)

Uterus, *Ulcerative Inflammation of.*—Make very careful specular examination. Local treatment:—astringent vaginal injections, sulph. zinc, alum, tannin, acetate of lead, &c., repeated cauterization of the ulcerated surface with nitrate of silver, or acid nitrate of mercury. The use of the caustic is followed frequently by an increase in the local pains and leucorrhœa, which may become sanguinolent. The exacerbation may last a few days, but after-

wards the patient becomes easier and better than before its application. General treatment:—continence, horizontal posture, and such other means as constitutional symptoms indicate. When there is debility, give tonics, &c. Leeches, scarifications, or cold hip-bath are unnecessary. External applications for pains in the loins are useless, but may be employed as a placebo. (Dr. Bennet, p. 356.)

Irritability of Stomach in Pregnancy.—Give strychnia in doses of from one-sixth to one-twelfth of a grain, in a little diluted nitric acid, three times a-day. (Dr. G. Bird, p. 101.)

Vomiting of Pregnancy.—M. Stackler gives three quarters of a grain daily, of the black oxide of mercury. No unpleasant effects follow. It is beneficial in hysterical convulsions and uterine irritation. [We suspect some mistake in the statement of the quantity given.—Ed.] (p. 345.)

Hæmorrhage *before Delivery.*—1. Accidental.—If the os uteri be dilated and the presentation natural, rupture the membranes, and leave the case to nature; but if the hæmorrhage do not cease, use ergot. If the os be not dilated, plug and wait.

2. In unavoidable, as placenta prævia.—If the os be dilated or dilatable, introduce the hand and turn the child, but if the placental covering of the os be only partial, treat as the first variety. (Dr. Mitchell, p. 347.)

Uterine Hæmorrhage after Delivery.—Mr. Higginbottom recommends giving an emetic dose of ipecacuanha, or ergot, in the exhaustion attending uterine hæmorrhage, after delivery of the child or separation of the placenta. Of the ergot, Mr. H. gives ʒss. before the birth of the child, and a like dose after birth, and before the separation of the placenta. (p. 355.)

Uterine Phlebitis and Peritonitis.—Give acetate of lead in the obstinate diarrhœa of uterine phlebitis and peritonitis. (Dr. Smith, p. 83.)

Puerperal Fever.—Endeavour to throw off the morbific specific matter, and sustain the powers of life: give diaphoretics and stimulants according to the stage of the disease. Adopt every precaution against propagation; cease to attend midwifery at the same time with cases of malignant or severe erysipelas; observe rigid ablution of the hands, either with simple water or chlorinated; change garments, or expose them to a free atmosphere or high temperature, or absent yourself so as to obtain an entire purification, at the same time using warm baths and other alterative and purifying means. (Dr. Peddie, p. 26.)

Ovarian Dropsy.—Puncture with a trocar through the vaginal parietes (the tumor being situate between the rectum and vagina), the canula being left thirty hours in the puncture to permit the fluid to drain off. In ten days it was dilated with a bistoury,

and water injected into the sac; and to keep the opening pervious, a thick tube of tin was introduced and secured in front. In four weeks the puncture and cyst were contracted and the patient cured. Conditions necessary to success:—1. No complication, and the tumor unilocular. 2. That the cyst contain no more than fifteen lbs. of fluid. 3. That the opening be large enough to permit the easy introduction of the finger. 4. That the temperature of injected water be agreeable to the patient, and thrown deep into the sac. 5. That the tube be occasionally withdrawn, and not entirely disused, until the opening has contracted, and the discharge become solely purulent. (Prof. Kiwisch, p. 400.)

Menstruation, *Irregular.*—Make use of cold water as follows: commence first with the tepid and then with the cold bath, twice daily, for half an hour at a time. This process exerts a double influence on the female genital organs; the one a strengthening, and the other an attracting force. (Dr. Chmelik, p. 396.)

Chlorosis.—There are cases of chlorosis marked by an increase rather than a diminution of the total amount of blood; it is not a necessary condition, but is more certainly and frequently a change in its quality. It is identical with anæmia.

When there is increase of blood, blood-letting, leeches, or cupping, are recommended.

When pain on pressure in some region of the spinal cord, cup or apply leeches, or repeated blisters on either side of the spine. Moderate pustulation; use anodynes sparingly and cautiously, and this may apply also to the use of aconite or cannabis Indica. The local application of these anodynes may be tried with much advantage, by means of soaked lint, either with or without the removal of the cuticle. Sulphate of veratrine ℈j. to ʒj. of axunge is very efficacious. Where the pains are very obstinate and severe, *firing* lightly applied may be tried.

Where there is great disturbance of the digestive functions, give warm cordial cathartics; one or two drops of creosote in pill thrice daily, alone, or with compound galbanum pill; finely powdered charcoal (of which that from boxwood is the best); or the following:—Fine charcoal, calcined magnesia, aa. gr. x., powdered nutmeg, five grs. Mix. This, mixed cautiously with, and taken in, milk and water, two or three times a-day.

The *essential* treatment, as it has special regard to the normal character of the red particles of the blood, must consist in the administration of iron (if no contra-indicating conditions). If idiosyncracy prove a constitution intolerant of iron, then make trial of bismuth, either alone, or in combination with carbonate of ammonia, and the salts of peruvian bark. If iron can be tolerated, then the muriated tincture; the acetated tincture of Dr. Percival, of Dublin; vinum ferri; or Bewley's solution of the

super-carbonate; mist. ferri. comp.; bark, iron, and ammonia; citrate of iron and quinine; compound ferri pil. with sulph. of quinine; and the saccharine proto-carbonate.

When a mild aperient is necessary during the use of iron, the following is recommended:—Sodæ bicarb. gr. xv.; acid tartaric, gr. x.; sulph. ferri, (siccat) gr. j. ad gr. v.; sacchari albi, ʒ ss. M. to be kept dry, dissolved in a wine-glassful of water, and swallowed whilst effervescing.

Dr. Freke recommends the hydro-sulphuret of ammonia to diminish the number of red corpuscles in the blood, on the supposition that it appropriates a portion of that iron which would otherwise contribute to the formation of the red globules. (Sir H. Marsh, p. 388.)

Administer from eight to thirty grains daily, of tannate of iron, especially to persons of sanguine temperament. (M. Benedetti, p. 394.)

Amenorrhœa, *Electricity and Galvanism in.*—To insure success, improve the general health by exercise and tonics, and remove accumulations from the bowels. Pass the shocks of the Leyden jar from the pubes to the sacrum, beginning about a week before the expected period of return, and repeat as often as will be thought necessary. (Dr. G. Bird, p. 395.)

Dr. T. L. Ogier gives a teaspoonful of a strong tincture of water pepper, made from the leaves, stems, and flowers, three times a-day. (p. 396.)

AFFECTIONS OF JOINTS AND BONES.

Dislocations.—*Hip Joint, Reduction of.*—1. Obtain two planks of oak, beech, or elm, eight feet long, three feet wide, and three inches thick, and joint these by joists. 2. Let these rest on chairs or tressels. 3. Drill holes in opposite directions, so that when the patient is placed upon the board, the ilia and unaffected thigh may be secured by two strong leather straps, thus rendering the pelvis fixed, and enabling the effective means, viz., extension and uplifting the head of the affected bone, to be used with the greatest advantage. In dislocation of the dorsum ilii, instead of the single pad above the knee, substitute two iron plates just above the condyles, one side being fast by a hinge-joint, and the other by two thumb-screws. 4. At the distal end of the board, fix an upright post, twenty inches high and three or four inches thick, and drill it in a hole for the pulley rope to pass: make another hole laterally in the post for a stick or windlass, which may be worked with cogs or a ratchet wheel. 5. Attach one of the pullies to a hook in the front plate (of which no description

is given), and the other to a strong screw staple in the upright post. 6. All being now adjusted, extension may be made in the most gradual manner. Wherever it shall be required, the apparatus should be well wadded with any suitable soft material, to prevent abrasion of the skin and bruising of soft parts. [A simple diagram, with the apparatus applied upon a figure, would very much have forwarded the objects for which the paper is published.—Ed.] (Mr. Davis, p. 163.)

Iodine Injections into the Joints.—Consider well the situation of the opening, especially let it be at or near where fluctuation is most evident. Pinch up a fold of skin and pass in the hydrocele trocar at the base of this fold, so that when the operation is complete, the internal and external opening may not correspond, which prevents the ingress of air. An ordinary trocar may be used. (M. Velpeau uses a hydrocele trocar.) Draw off six or eight drachms of the fluid (M. Velpeau draws the whole off), or a quantity equal to the injection thrown in. Use undiluted tincture of iodine; the fluid left in the cavity dilutes it. (M. Velpeau dilutes the injection.) Allow the greater part of the fluid to remain in the joint. (M. Velpeau allows it all to escape.) N.B. M. Velpeau's practice appears to have been the most successful; it does not excite so much inflammation. (M. Bonnet, p. 165.)

Bursæ, *Diseased.*—Make a free longitudinal incision from above downwards, throughout the whole extent of the bursa; inspect the cyst and detach any small adherent bodies where the cyst is thick and capacious, and bulges from the incision, remove an eliptical portion. Introduce an oiled dossil of lint as a dressing, and apply light compresses and a bandage. When suppuration is fairly established, apply poultices if necessary. The advantages of this method over puncture, subcutaneous incision, injection, seton, extirpation, &c., are—1. It is easily and quickly done. 2. It is less painful. 3. It produces little or no constitutional disturbance. 4. It is more satisfactory in its results, producing a radical cure, and removes all foreign bodies at once. (Dr. Adams, p. 172.)

In acutely inflamed bursæ, enjoin rest, apply leeches, and cold lotions, and when the inflammation is sufficiently subdued, pass a bit of sewing silk through the centre of the cyst. (Mr. Richard, p. 175.)

Knee-Joint, *Bursal Disease of.*—When not communicating with a joint, they may be opened without danger in all situations and in every stage. The effect of seton is like that through a hydrocele or ranula, viz., the secretion is absorbed without being discharged by a wound, and the sac is obliterated. In a hard and consolidated form of the disease, it breaks down into a common abscess, which, when punctured, discharges its contents and

heals. Pass the thread (common silk) through the centre of the tumor, and keep it in until the end is accomplished. If inflammation supervene, remove the thread, foment or poultice; when sufficient inflammation has been set up, which is indicated by the oozing of pus from the punctures, and may be continued four or five weeks. If the morbid bursa be too deep for the application of the above treatment, injection and pressure may be used.

For ganglions or adventitious cutaneous cysts, puncture with the lancet is a less painful and more certain remedy than a blow. Let the puncture be no larger than to evacuate the contents of the cyst. Bind down the part afterwards with a pad of lint and adhesive plaster, to promote the obliteration of the cyst. (Mr. Skey, p. 170.)

Diseased Joints.—(Position and Support.)—In joints of the lower extremities, first calculate well the position the most applicable (the straight being the most sightly and useful). Use strong pasteboard or undressed leather as a splint, adapt it whilst wet, and pad with lint or jeweller's wool, and fit in such way to the limb as to be perfectly easy to the patient, at the same time giving steadiness to the limb, and let it extend sufficiently above and below the joint.

Convalescent Treatment. — Envelope the joint in splints of leather undressed with oil, first softened in water, and allow them to remain on so as form an exact case for the joint, which, when hard, may be lined with soft wash-leather. Jeweller's wool may now be laid in various places to prevent pressure of the edges of the splint, and a firm roller applied to secure all parts equally. The joint is now ready for passive or active motion, as may be judged most advisable. (Mr. Brownless, p. 167.)

Fractures of the Thigh.—Mr. Bulley, of the Berkshire Hospital, uses an apparatus for the more efficient treatment of fracture of the thigh, which makes the extensile power by means of a foot piece moving on an endless screw, and divides the traction equally between the foot and the lower end of the fractured bone. Its advantages are—1st. Easily regulated extension; 2nd. Constant exposure to the eye of the surgeon. There is a lateral splint also connected with the upper part of the apparatus, so acted upon, as to prevent the bowed or excurvated appearance so frequently produced. (p. 158.)

Fracture of Clavicle.—The maintenance of the fragments immoveable, and the obtaining a regular callus, are procurable by Dessault's bandage rendered stiff with dextrine. Care is to be taken to guard the armpits and other parts against this stiffness by means of compresses or wadding. A tight flannel waistcoat next the skin is a good precaution. (M. Blandin, p. 158.)

Fracture, Treatment of.—To prevent pain and suffering, to place the parts in the most favourable condition for repair, and to

prompt the normal shape and length of the limb, are the principles which must guide the surgeon in the treatment of fracture; and these indications are fulfilled by instant coaptation, and observing the utmost possible apposition. These observed, there is no necessity for local loss of blood or cold lotions. Firm support, guided by the above principles, will do all that is necessary to secure a sound limb. (Mr. Liston, p. 157.)

AFFECTIONS OF THE SENSES.

Skin Diseases. — *Porrigo Scutulata.* (*Ringworm.*) — Shave the head, and apply one of the stronger acids to the part. The strong acetic answers best. It may be applied by means of a piece of sponge tied to a stick, and should only be used for a few minutes. Nothing more should be done for a week or ten days, when the crust produced by the acid should be separated with a pair of scissors, and if there be any appearance of the disease remaining, the acetic acid should be applied again; but if it present a healthy appearance, let it be well washed with soap and water, and a little olive oil applied every night. When all the vegetable organisms constituting the disease have been destroyed, then use a stimulating ointment, as the ung. creosote ʒss. to ʒj. to the ounce of lard; or apply tincture of iodine by means of a camel's-hair brush; or the ung hyd biniodid, diluted with six parts of the ung. picis liquid; or a mixture of equal parts of sulphur and pitch ointment; or the carb. of potass ointment, ʒss to ʒi. to the ounce of lard. It is often useful to alternate some of these remedies; the head should also be washed three or four times a-day with a lotion of the sulphuret of potass dissolved in lime water, or with carbonate of potass dissolved in water, or with soft soap and water. Attend to the general health: if the child be of a delicate habit or scrofulous, give iron and tonics, quinine with infus. quassiæ, and a nutritious diet. All heating articles of diet are improper, also salted food; the diet should be plain, but nutritious. (Erichsen and Wigan, p. 295.)

Porrigo.—Avoid all unnecessary irritation, as soap, cold lotions, poultices, or narcotics. Do not shave the head, but cut the hair down as close as possible with scissors, first softening the crusts with hot water, and afterwards washing with half the yolk of a fresh egg and water, and drying with a very soft cloth. Use a sulphurous ointment combined with camphor or creosote ℈j. to ʒj. of lard. Wear a light linen or silk cap of a washing kind, and change the linings of hats, bonnets, &c., frequently. Internal treatment must be guided by common principles. (Mr. Startin, p. 286.)

Porrigo Pudendi. — Take a small bleeding from the arm (8 oz.) Give calomel, gr. iv; ext. coloc. comp. gr. vi, statim; and every four hours two tablespoonfuls of the following mixture:—Potassæ nitrat., ʒj.; magn. sulph., ℥j.; mist. camph., ℥vj. M. Lotio plumbi. to be kept constantly applied to the vulva. After some time the lead lotion may be replaced by one of two grs. to five of bichloride of mercury, and two to five minims of hydrochloric acid to aqua ℥j. Observe well the regulation of the bowels and dietary. (Mr. Evans, p. 301.)

Acne.—When the follicles are only loaded, use the flesh brush, but, if very large and unsightly, use mechanical means, as a needle, to empty them. If the suppurating points are numerous, order the vapour douche; mercury, and camphor ointment, white precipitate with camphor, or lime ʒj., zinc ointment, ℥j., camphor, ℈j., or ioduret of sulphur, gr. xv. ad gr. xxx., lard, ℥j., or, hyd. bichlor. in almond emulsion, or quince seed mucilage; or, sodæ hyposulphitis ʒj. ad ʒij., alum sulphat. ʒj. ad ʒij., aq. ros. ℥viiss., aq. colognæ ℥ss. for a lotion.

For the redness that remains on the nose after the eruption, apply nitric acid, pharmacopœia strength, but take it off immediately with blotting paper; or, you may use acetum cantharidis: both these at fortnightly intervals; or, puncture every large vascular trunk with a fine lancet.

Chalybeates, mineral acids, vegetable bitters, or iodine, arsenic, or mercury, if special organs require them. Alcoholic stimulants if the stomach require good air and exercise. (Mr. Startin, p. 289.)

Sycosis.—Extract the hairs with a pair of forceps; wash with yolk of egg and warm water, or fomentations of decoction of poppies, linseed, &c., with a little sulphur or bran; or a sulphur vapour douche, applied by means of a steam-pipe to the face, excluding the nose; or, apply the following mild stimulating ointments, viz., hyd. precip. alb. gr. xv.; ung. hydrarg. fort. ʒj.; liq. plumbi acet. ʒss.; ol. palmi, recent, ʒvj.; M. Give brisk acidulated saline purgatives, and, subsequently chalybeates. (M. Startin, p. 292.)

Lepra, Psoriasis, Lupus, Acne, Eczema Chronica, Impetigo, Prurigo, Lichen.— In the treatment of these and all chronic affections of the skin which are not venereal, nor dependent on local causes, first, reduce inflammatory action by depletion and antiphlogistic regimen; then administer arsenic, beginning with five minims of the liquor potassæ arsenitis thrice a-day, with the meals, until the conjunctiva is inflamed; afterwards reduce the dose to four minims, keeping the eyelids slightly sore and weeping. The whole success of this treatment (which seldom or never fails in any of the above diseases), depends upon the continued and persevering use of the medicine, which is perfectly harmless, when

administered with vigilance under these restrictions. (Mr. Hunt, p. 302.)

Pityriasis, Herpes, Eczema.—Use a lotion composed of one part of alum, and sixty-two parts of water.

In the slightest forms of acne, lichen, pityriasis, herpes, and even in eczema, use a simple acidulated lotion. In impetigo, after the crusts have fallen off, use the following application of alumina :—Alum, eight grammes; infusion of Provence roses, five hundred grammes. Gowland's solution, or Bateman's mercurial emulsion, however, answer very well. M. Cazenave uses the following:—Bichloride of mercury, ten centigrammes; hydrochlorate of ammonia, ten centigrammes; almond emulsion 250 grammes; make a solution. In really chronic eczema he uses the following lotion:—Acid nitric, twenty-five drops; acid muriatic, twenty-five drops; distilled water, three hundred grammes. Mix by shaking. (Cazenave, p. 310.)

Ichthyosis Fortuita.—1st. Augment the action of the capillaries of the skin, by giving small doses of blue pill and emetic tartar; liquor arsenicalis; cantharidis in decoction of rumex obtusifolius, made by boiling an ounce of the sliced root of the common dock in a pint of soft water; dose ℥ij. 2ndly. Improve the secretions generally, by generous diet, as milk, vigorous exercise in the open air, &c. 3rdly. Aid the action of the two former by topical means which stimulate the skin, and assist the separation of the diseased papillæ by warm baths, friction, &c. (Dr. A. T. Thomson, p. 311.)

Urticaria.—Where arising from irritating ingesta, give emetics and purgatives. If from visceral disorders of other forms, pay especial attention to them. Where idiopathic, and without assignable cause, pay close attention to the skin, &c.: bleed when the pulse will admit, and give magnesian aperients, or iodide of potassium. Where the case is chronic, use liquor potassæ in large, or liquor potassæ arsenitis, in small doses. (Mr. Startin, p. 295.)

Erysipelas.—In some cases the following ointment may be used instead of the solid arg. nit. or the solution: nitrate of silver ointment in three strengths, viz.:—Nitrate, 12 parts, lard, 32 parts; nitrate 8 parts, lard, 32 parts; nitrate, 4 parts, lard, 32 parts. (M. Jobert, p. 311.)

Stains from Nitrate of Silver, to remove.—Moisten the spots several times with a solution of hydriodate of potash, and expose the part to the direct rays of the sun. The hydriodate converts the black stain of the nitrate into the white ioduret of of silver. A trial of its use internally is also recommended in those cases where the skin has been tinted by the internal use of the nitrate. (Journal de Medicine, p. 311.)

Eye Diseases.—*Syphilitic Iritis.*—Give turpentine ʒj. three times a day in almond emulsion, using double the quantity of the confection. Thus (Mr. Carmichael's formula):—℞. Olei terebinth. rectificat. ʒj., vitelli unius ovi simul, et adde gradatim, emulsionis amygd. ℥iv.; syr. cort. aurant., ℥ij.; spt. lav. c. ʒiij. ol. cinnam. gtt. three vel. four. Misce, sumat cochlearia larga duo ter in die. If the inflammation run high, cup or leech the temple This remedy alone is frequently successful, but in obstinate cases, mercury is the sheet anchor. (Dr. Jacob, p. 321.)

Conjunctivitis, Iritis, &c.—Dr. Laugier recommends a collyrium (made in a warm marble mortar) of two parts Venice turpentine, and one part oil of turpentine, added by degrees, in conjunctivitis, accompanied with slight tarsal affections, scrofulous corneitis, and conjunctivitis with corneitis. He instils three or four drops between the eyelids night and morning. The oil of turpentine may also be made into an ointment, but he prefers using the mixture. (p. 330.)

Ophthalmia, Gonorrhœal.—Apply the nitrate of silver in substance to the conjunctiva by exposing the conjunctival surface of the inferior eyelid, and drawing the caustic, pointed like a pencil, lightly across it. (Mr. Walker, p. 325.)

Ptosis.—Reserve in the use of direct depletion is commonly most in accordance with the principles of sound practice. But cupping, mercury, purgatives, dietary, blistering, and subsequently tonics, are productive of most decided advantage. (Mr. France, p. 321.)

TOXICOLOGY.

Poisons.—*Arsenic.*—Magnesia, not strongly calcined, is an excellent antidote to arsenious acid; it removes it entirely from a state of solution in water, and forms an insoluble compound. Magnesia in a gelatinous state answers best. Magnesia decomposes emetic tartar, the salts of copper, and corrosive sublimate, also the organic alkalies, morphia, strychnia, &c. (M. Bussy, p. 125.)

Dr. Christison recommends the light pure magnesia, which may be obtained in a gelatinous pulpy state, by adding a solution of caustic potash to a cold saturated solution of sulphate of magnesia, and washed afterwards with cold water. The dense magnesia has very little action on arsenic in solution. When the gelatinous cannot be obtained, then use the light calcined, in proportion of between thirty and fifty parts to one of arsenic taken.

[As in the hurry of these cases it is frequently difficult to know what quantity of arsenic has been taken, it must be left to the discretion of each practitioner to judge what quantity of the magnesia he shall administer as the antidote.—Ed.] (Dr. Christison, p. 125.)

Mineral Poisons.—Universal antidote:—First give a purgative, then a soap bath, and a mixture of persulphuret of iron and syrup, night and morning, in such quantities as to be always in excess in the intestines to prevent reabsorption. (MM. Sandras and Bouchardat, p. 406.)

King's Yellow.—The hydrated peroxide of iron acts as the best chemical antidote, combining with the arsenic in the stomach to form an arsenite of iron which has little solubility, and therefore of little energy as a poison. As the arsenic may be again set free by the secretions of the stomach, take care to give the peroxide in excess, and repeatedly, until all effects subside. (Dr. Paterson, p. 127.)

Laudanum.—Make use of electro-magnetism. The wires to be applied in turn to every part of the body, and the patient to be roused and kept awake. It may be continued for four hours, and may gradually become more susceptible and energetic in the limit until the end of the period stated, when there may be satisfactory revival. (Dr. Barry, p. 119.)

MATERIA MEDICA AND GENERAL THERAPEUTICS.

Atropia and Belladonna.—Make a solution of one, two, or three grains of atropia to ʒj. of distilled water; add a drop of nitric acid to render it soluble, and a drop of spt. vini, to make it keep. Introduce a drop of one of these solutions between the eyelids, which will keep the pupil dilated from four to ten days, according to the strength of the solution used.

It may be useful in iritis; aquo capsulitis; also when it is wished to break up recent adhesions between the iris and lens; to withdraw a protruding iris from its position; in central cataract; or in central opacity of the cornea, where the pupillary margin is attached to the back of the cornea, &c. Its use is less marked when conjunctivitis is present, than in a healthy eye, and its effects are more evanescent.

In ulcers of the cornea, belladonna is of especial service; by it synechia anteria, &c. may be prevented. In cases of rupture from ulceration, with hernia of the iris, apply the solution of atropia close to the eyelids, and keep them closed with plaster; smear the eye and brow with the extract of belladonna, and, if necessary, use leeches to the temples, just over the malar bone;

apply blistering, and use such constitutional treatment as is calculated to subdue inflammation, and the further spread of the sloughy or ulcerating process.

In neuralgic affections of the eye, intermitting and unattended with inflammation or obvious alteration in the structure or motion of the organ—try belladonna internally, from one-sixteenth to one-sixth of a gr. in solution three times a-day. In old and inveterate photophobia or ophthalmia, attended with vascular cornea, in discharged soldiers, the internal use of belladonna is marked. (Mr. Wilde, p. 317.)

Amputation of the Thigh.—Dr. Syme says he is now satisfied that there are circumstances in which the circular incision ought to be preferred. The perfect condition of the stump, where there is nothing but integuments to protect the bone, as at the ankle, led him to conclude, that if the circular operation could be performed with the certainty of providing such a covering, it might be employed with advantage in the lower third of the thigh. There is plenty of skin and plenty of room to employ the tourniquet, without impeding the incisions or retraction of the muscles, and the size of the wound is much smaller than at the middle of the thigh. Apply the tourniquet close to the groin; use a middle-sized knife, such as is employed for the flap operation. Make the incision of the skin as near the knee as possible; not in a circular direction, but so as to form two semilunar edges, which may meet together in a line, from side to side, without projecting at the corners, and divide the fascia with the integuments. Draw these up by firmly clasping the limb, and not by dissecting and turning back. Divide the muscles by a circular sweep of the knife down to the bone, and retract with the utmost care. This should be at least two inches; and, before using the saw, protect the muscles, and freely expose the bone by means of a split cloth.

Mr. Syme adds, as the soft parts required to form the stump in amputation at the knee, are apt to be so deranged in their texture, as to delay, though not prevent recovery, and thus in some measure counterbalance the advantage of exposing the cancellated instead of dense bone, together with the contents of the medullary cavity, "I do not persist in advocating amputation at the knee, now when satisfied that the operation by circular incision, if performed with due care on proper principles, may be employed at the lower third of the thigh safely and advantageously." (Professor Syme, p. 176.)

In amputation, Mr. Quain makes the flaps short in the first instance, and adds to their length, subsequently, by circular incisions through the deeper muscles, Modifications are, however, required, according as the parts to be amputated are not clothed with muscle, e.g., the leg and fore-arm. (Mr. Quain, p. 179.)

Flap Amputation.—The disadvantages of flap amputation are—1. It is more painful from the extent of integument divided, and oblique division of nerves. 2. More protracted in its performance, in consequence of the difficulty of obliquely cut arteries collapsing. (Mr. Bulley, p. 180.)

Reflecting Prism, *and Tube for Exploring the Open Passages.*—Used for 1st. The vagina, &c., for polypi; for ulcerative, and other diseases both of the vagina and uterus, and preternatural labour. 2nd. The rectum; for stricture, hæmorrhoids, &c. 3rd. Urethra and bladder; in lithotrity, lithotomy, and stricture. 4th. The pharynx, larynx, and eustachian tube; for diseases of these passages. 5th. The nose; for ulcer, ozœna, polypus. 6th. The stomach itself! 7th. Gunshot wounds, &c.; where bodies lodge and require extraction. (Warden and Avery, p. 406.)

Ulcers.—Give turpentine in those ulcers which are prevented healing by deficient action, where the ulcer is sluggish, surface smooth, without granulation, or of a greenish foul appearance; discharge serous, edges rounded, smooth, and callous, and the surrounding skin is pink or blue. It should not be exhibited where the patient is plethoric, the ulcer inflammatory, and the pulse full and frequent, or where it produces nausea, or other unpleasant symptoms; in the last case substitute cajeput oil, three drops three times a-day, or give the capsules of Messrs. Evans and Lescher, each containing twenty to twenty-five drops of the turpentine. Continue the use of the turpentine until good healthy granulations appear, with the secretion of good pus. (Mr. Hancock, p. 403.)

Moist Heat, *Application of*—Mr. Markwick, of the Western German Dispensary, has ivented a fabric of sponge and wool, which he calls "Spongio-piline," which, by being impregnated with the required epithem, proves a substitute for poultices and fomentation cloths.

The "Impermeable piline" is another fabric of wool, &c., backed with Indian rubber, and recommended where protection to the skin and joints, or increased diaphoresis, is necessary.

Plasters.—New mode of preparing adhesive, and strengthening plasters.—Indian rubber in fine shreds, 5 lbs.; spt. turpentine, sufficient to cover, and added as the substance absorbs it. When dissolved, press through a fine sieve. Heat four ounces of Cayenne pepper in a quart of spt. turpentine, and, with a portion of it, grind 1 lb. of litharge, mix in the remainder afterwards, and add 6 oz. bals. Peru. Then melt 1 lb. of Indian rubber, and add spt. turpentine until it is thin enough to strain. Finally, mix all the preceding together. (Chemist, p. 408.)

Bed Sores.—Thicken the cuticle, by using a stimulating wash, as follows:—Hyd. bichlorid. gr. ij.; sp. vini tenuoi. ℥j. ft. lotio. This may also be applied to the skin, against which a very powerful truss is to press. (Sir B. Brodie, p. 408.)

Vapour Bath—Cheap substitute for one more complicated.—Take a piece of quick lime, the size of the fist: wrap it round with a well wetted cloth or flannel; then, to prevent its wetting the bed, with a dry one, doubled in folds. One may be placed on each side and one at the feet, and, when sweating is fully established, they may be withdrawn. Hot fluids or increased covering is unnecessary. (Dr. Serre, p. 155.)

Mercury, *Mode of Administering to Children.*—Smear a drachm or more of strong mercurial ointment on a flannel roller, and apply it, not very tight, round the knee. Repeat it daily. The motions of the child produce the necessary friction. (Sir B. Brodie, p. 147.)

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[D. I. ROEBUCK, PRINTER, 24, BANK-STREET, LEEDS.]